Operations & Maintenance Report, 2020

Former Rhone-Poulenc site

Tukwila, Washington

March 1, 2021

Prepared for:
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Tukwila, Washington

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Certification

On behalf of the respondents, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this Operations & Maintenance Report, 2020 is true, accurate, and complete. As to those portions of the report for which I cannot personally verify accuracy, I certify under penalty of law that this report and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who may manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

By: Natasya DD Gray _____ Date: March 1, 2021

Ms. Tasya Gray, DOF, Project Coordinator

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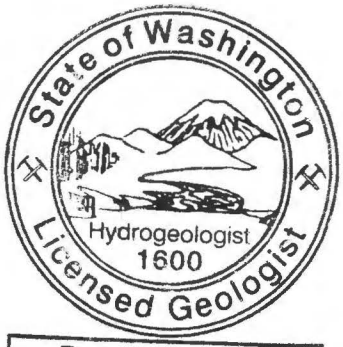
The attached groundwater elevation maps were prepared by the staff of Dalton, Olmsted, & Fuglevand, Inc., under the supervision of the hydrogeologist whose seal and signature appear hereon.

The findings, recommendations, specifications, or professional opinions have been prepared within the limits described by the client, in accordance with generally accepted professional engineering and geologic practices in Washington for the nature of services authorized by the client at the time the services were provided. No warranty is expressed or implied.



Dave G. Cooper, LG, LHG
Principal Geologist

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ACRONYMS AND ABBREVIATIONS

µg/L ..... micrograms per liter

bgs ..... below ground surface

BTEX ..... benzene, toluene, ethylbenzene, and xylenes

CMS ..... Corrective Measures Study

cm/sec ..... centimeters per second

COC ..... constituent of concern

Delta ..... water level differential

DOF ..... Dalton, Olmsted & Fuglevand, Inc.

EPA ..... Environmental Protection Agency

GAC ..... granular activated carbon

gpm ..... gallons per minute

HCIM ..... hydraulic control interim measure

KCDNRP ..... King County Department of Natural Resources and Parks

O&M ..... operations and maintenance

Order ..... Administrative Order on Consent No. 1091-11-20-3008(h)

PLC ..... programmable logic controller

PMP ..... Performance Monitoring Plan

POTW ..... publicly owned treatment works

PRG ..... preliminary remediation goal

RCRA ..... Resource Conservation and Recovery Act

RFI ..... RCRA Facility Investigation

Wood ..... Wood Environment & Infrastructure Solutions, Inc.

1. INTRODUCTION

Dalton, Olmsted & Fuglevand, Inc. (DOF) prepared this report on behalf of Container Properties, LLC, pursuant to the requirements of the Performance Monitoring Plan (PMP) for the hydraulic control interim measure (HCIM) at the former Rhone-Poulenc facility (the site) in Tukwila, Washington (AMEC Geomatrix, 2009). The site is located along the Duwamish Waterway at 9229 East Marginal Way South, Tukwila, Washington (Figure 1). The HCIM work at the site is currently being conducted under Administrative Order on Consent No. 1091- 11-20-3008(h) (Order). Corrective Actions under the Order are being overseen by the U.S. Environmental Protection Agency (EPA).

Operations and Maintenance responsibilities and reporting were previously coordinated by Wood. DOF took over these responsibilities in mid-June 2020. This report was prepared using operational records provided by Wood and reference herein for the period prior to DOF's involvement.

Since site closure in 1991, extensive investigations have been completed at the site to evaluate environmental impacts on soil and groundwater resulting from the former vanillin plant. The primary constituents of concern (COCs) identified through these studies are:

- Toluene, an industrial solvent used in the vanillin process;
- Copper, resulting from vanillin black liquor solids used for weed control, various releases of contaminated surface runoff waters and process wastewaters, and strainersolids from vanillin manufacture; and
- Caustic, resulting in elevated pH in groundwater (Wood, 2020a).

Toluene-affected groundwater is limited primarily to the southwestern portion of the site and had degraded to below the preliminary remediation goals (PRGs). Copper- affected groundwater and groundwater with elevated pH due to caustic releases are limited to the west side and southwest corner of the site, based on historical data. Other metals are present in groundwater to a limited extent. Other COCs for the site include benzene, ethylbenzene, naphthalene, pentachlorophenol, aluminum, arsenic, cadmium, chromium, lead, mercury, nickel, vanadium, and zinc (EPA, 2014).

COCs identified in soil are metals; volatile organic compounds; semivolatile organic compounds including pentachlorophenol and polycyclic aromatic hydrocarbons; pesticides; polychlorinated biphenyls; and total petroleum hydrocarbons (EPA, 2014).

An HCIM was constructed at the site from January through July 2003, consistent with the EPA-approved work plan (URS, 2002b). The groundwater remedy used at this site is an interim measure that consists of hydraulic containment using a subsurface barrier wall with a pump-and-treat system (Figure 2). The extracted groundwater is treated using granular activated carbon (GAC) and discharged to a publicly owned treatment works (POTW). The HCIM consists of three primary components:

- A low-permeability subsurface barrier wall surrounding contaminated areas, which extends down through the permeable sediment and into the low permeability silt aquitard that is at a depth of approximately 65 to 80 feet;
- A groundwater extraction and pretreatment system; and
- A performance monitoring well network.

In 2006, the entire facility underwent redevelopment, and additional investigations were performed. The property was split into two parcels, the East Parcel and the West Parcel. The East Parcel was extensively investigated and remediated. EPA provided a partial determination of "Corrective Action Complete without Controls" for the East Parcel in a letter dated December 20, 2006 (EPA, 2006). The East Parcel is now owned by the Museum of Flight, and throughout this report the former East Parcel is referred to as the Museum of Flight property. The East Parcel cleanup resulted in that parcel being removed from the RCRA Order.

The West Parcel was regraded and repaved as part of redevelopment activities. The West Parcel was leased by Container Properties to King County in 2020. This report primarily documents activities associated with the HCIM at the former West Parcel, which is referred to in this report as the site.

1.1. Purpose of this Report

The primary purposes of this report are to:

- Document the HCIM-related events that occurred on the site in 2020; and
- Evaluate the performance of the existing HCIM (Figure 2) in controlling the migration of contaminated groundwater from the site to the Duwamish Waterway.

The original construction work plan (URS, 2002b) required the effectiveness of the barrier wall in providing hydraulic control to be evaluated using data collected from monitoring wells (Figure 3). The most recent version of the PMP, in effect for 2020 (AMEC Geomatrix, 2009) specifies the preparation of an operations and maintenance (O&M) report summarizing the results of the prior year of performance monitoring. This document is the 2020 O&M report, as specified in the PMP.

2. OPERATIONS SUMMARY

This section describes O&M procedures, as well as routine and non-routine events involving the HCIM system in 2020. A timeline of events documenting operation of the HCIM is provided in Table 1.

2.1. System Downtime

This section describes downtime for the HCIM groundwater extraction and data recording system during 2020, including both scheduled/routine events and non-routine events.

2.1.1. Routine Downtime

From January through December 2020, the groundwater extraction and pretreatment system normally operated in Auto mode, except for equipment maintenance. Auto and Hand modes control only the function of the extraction well pumps; data recording occurs regardless of the mode of operation. The data recording system is designed and constructed to operate continuously during any routine maintenance and monitoring.

Routine maintenance performed in 2020 was limited to issues related to bag filter changeouts and a single planned power interruption. During bag filter changeouts, the extraction pumps are turned off and the filters are isolated. Water level data is recorded throughout the process. On November 3, 2020

a planned power interruption occurred related to tenant improvements. The interruption last 6 hours and they system was restarted following the work. The power interruption was scheduled to occur when the system was not pumping and delta was greater than the required 1.0-foot because the data recorder would not operate during that period.

2.1.2. Non-routine Downtime and Events

Non-routine system downtime is defined as any malfunction that prevents the system from extracting water at rates needed to maintain the water level differential or any malfunction that prevents accurate data recording for a significant period of time. Non-routine events include power loss for more than one day, loss of data recording ability, loss of extraction well functionality, and loss of discharge capability.

Several non-routine events occurred in 2020. Routine and non-routine events that occurred during 2020 are detailed in Table 2, which includes dates and causes of the problems, as well as the actions taken to resolve the problems. Events were recorded in the field book and on maintenance resolution forms prepared by the maintenance staff involved at the time of the event[1]. Non-routine events in 2020 are also summarized below:

- On March 18, 2020 the transducer in control well MW-49 was determined to be malfunctioning since March 5, 2020. The malfunction caused the system to activate multiple pumps and operate continuously until the system was turned off on March 18, 2020. The malfunction resulted in the system increasing delta well beyond the required differential of 1.0-foot. They system remained off until the transducer was replaced on March 23, 2020. The new transducer was calibrated and the system functioned normally under automatic control.
- On March 26, 2020 the phone line used by the autodialer to notify operators of alarms was determined to be broken. Multiple site visits by the telecommunication company were required to address and the phone line was repaired on July 1, 2020.
- On July 1, 2020 small areas of asphalt were ground and repaved in preparation for the new lease tenant (King County). These repairs were performed as a preventative measure to repair small cracks in the asphalt. Cap issues were not identified during inspections and were not the driver for completing the repairs.
- While processing the September 2020 system data, the communication line between MW-49 and the programmable logic controller (PLC) was determined to have been interrupted during desiccant change out on September 22, 2020. The communication line was reconnected on October 5, 2020 and calibration was confirmed. During this period, the differential water level was maintained at greater than 1.0-foot.
- During the November 2, 2020 monthly inspection the PLC storage card was found to have not recorded data. Upon further inspection on November 3, 2020 it was determined that the storage card had been improperly installed the prior month. A new card was properly installed and data was obtained from the data recorder and flow meters for reporting during the period the PLC did not record.

[1] Maintenance resolution forms and notes provided to DOF by Wood for the period from January 2020 to June 2020.

Despite these non-routine downtime events, the target differential water level was maintained continuously through the end of 2020.

2.2. Operational Data and Process Monitoring Data

A timeline of events for the HCIM system from January through December 2020 is provided in Table 1, which summarizes the major deliverables and milestones related to operation of the HCIM. The information in this table was (1) summarized from the Progress Reports submitted to EPA as required under the Order, and (2) checked against available operational records provided by Wood and maintained in the DOF office.

Figure 4 shows the running 72-hour average water levels measured in wells DM-8 and MW-49, located inside and outside the barrier wall, during 2020. The target water level line in Figure 4 represents the 1-foot differential elevation between DM-8 and MW-49. An inward-directed horizontal hydraulic gradient with the 1-foot differential performance standard was maintained throughout 2020. As shown in Figure 4, operation of the groundwater extraction system has maintained an average water level difference during 2020 that met or exceeded the performance target.

2.2.1. Plant Influent and Effluent and Efficiency of Aboveground Treatment

As part of the King County Department of Natural Resources and Parks (KCDNRP) groundwater discharge authorization, groundwater samples of the influent groundwater, of groundwater between the two liquid-phase GAC units ("between" samples), and of the effluent groundwater were collected quarterly in 2020. All three extraction wells were activated manually and purged for 15 minutes before sampling. Samples were analyzed for n-hexane-extractable material (oil and grease), pH, and benzene, toluene, ethylbenzene, and xylenes (BTEX). The results are summarized in Table 3. The full analytical reports are provided in Appendix A.

With the exception of pH, all of the tested analytes were below detection in all of the effluent and influent samples. The volume of water pumped by the extraction wells in 2020 was 2.09 million gallons (Table 4). Discharge volumes vary depending on the amount of precipitation and the river level controls in the Duwamish Waterway. Discharge volume in 2020 was greater than previous years because of the transducer failure in March 2020 (Figure 4).

The pH of influent samples ranged from 6.29 to 6.57 standard units. The pH of effluent samples ranged from 6.33 to 6.52 standard units. In all cases, the pH was well within the KCDNRP discharge limits of 5.0 to 12.0 standard units.

Although copper was not analyzed as part of the KCDNRP discharge monitoring, groundwater samples collected in 2020 as part of the water quality monitoring were analyzed for copper. The concentrations of copper in water samples collected from EX-3 were less than or equal to 8,000 micrograms per liter (µg/L), which is the KCDNRP maximum discharge limit for copper.

The pretreatment system has two GAC units in series. The non-detect concentrations of BTEX measured in the influent indicates that loading of the activated carbon is minimal and that concentrations are unlikely to be above the discharge limits. Quarterly sampling of influent, water between the GAC units, and effluent would detect any increase in BTEX concentrations in the influent, as well as any potential for breakthrough of contaminants before discharge to the King County sanitary sewer system. The carbon was last replaced in June 2010 (Wood, 2020a). A detailed loading analysis is unnecessary

because the system is designed to be effective even if breakthrough occurs in the lead unit. However, if the BTEX concentrations in well EX-3 groundwater increase substantially, a loading analysis in future O&M reports may be useful.

2.2.2. Extraction Well Data

This year (2020) was the thirteenth complete year of operation since site redevelopment (pavement and stormwater system revision). The system seems to have reached steady state (Figure 5).

As shown in Table 4, which presents the monthly groundwater discharge volumes and discharge rates for 2020, the average groundwater discharge rate during 2020 was 4.0 gallons per minute (gpm), with a total discharge volume of approximately 2.09 million gallons. Figure 5 displays yearly discharge flow totals for each year. The peak monthly discharge in 2020 was recorded in March (Table 4) and was atypically high due to the transducer malfunction mentioned in Section 2.1.2.

The monthly groundwater volumes have been provided quarterly to KCDNRP to satisfy conditions of the permit and discharge authorization. The average groundwater discharge flow rate (in gpm) is calculated by dividing the gallons discharged during a given time frame by the number of minutes in that time frame.

Operational controls continue to follow the pumping routine developed in 2007 that maintained the 1-foot water level differential while minimizing the volume of groundwater extracted. Currently pumps are set to respond to the following differential water levels:

- Lead pump begins pumping when the differential reaches 2.0 feet;
- Lag 1 pump begins pumping when the differential reaches 1.4 feet; and
- Lag 2 pump begins pumping when the differential reaches 1.2 feet.

Using the conservative pumping scheme outlined above, the differential never approached the 1-foot mark in 2020, consistently keeping a difference greater than 2 feet (Figure 4).

Typical maximum extraction rates for extraction wells range from 7 to 18 gpm, based on historical data recorded by flow meters. The changes in flow rates for each well between 2009 and 2020 are shown in Figure 6. Since permanent groundwater pumps were installed in June 2006, the flow rates for each well have been fairly constant.

To understand variation in pumping rates from the extraction wells, measurements of specific capacity are completed annually in third quarter. From 2019 (Wood, 2020a) to 2020, the specific capacity in EX-1 decreased by 0.3%, decreased in EX-2 by 0.1%, and decreased by 15.7% in EX-3.

The 2010 Revised Operation, Monitoring, Inspection, and Maintenance Plan (AMEC Geomatrix, 2010) specifies two evaluation criteria for extraction well performance that may indicate the need for well maintenance:

- A sudden decrease in flow rate in any extraction well (a decline of more than 25 percent from the normal range), or
- A significant decline in performance between annual measurements of specific capacity (a decline of more than 90 percent in specific capacity from the previous year).

The specific capacity results from 2020 indicate that no system modifications are currently necessary and the extraction wells pumping capacity is sufficient to maintain the required inward hydraulic gradient on 1.0-foot

2.3. Waste Handling/Disposal

This section describes waste handling and consumables associated with the HCIM.

2.3.1. Waste Handling/Disposal

Pursuant to RCRA regulations, all spent filter bags and carbon are treated as waste U220 because toluene (RCRA waste number U220) has been detected in the influent groundwater historically. Used filter bags are stored in a satellite accumulation area inside the pretreatment building (in the containment area) in a properly labeled and sealed 55-gallon drum. When the drum is full, the filter bags are shipped off site through a licensed waste handler in a container approved by the U.S. Department of Transportation. The filter bags were changed several times during 2020, but the volume on site in the satellite accumulation drum did not warrant shipment off site in 2020.

2.4. System Modifications and Maintenance

This section describes routine maintenance procedures and system modifications that occurred in 2020.

2.4.1. Routine Maintenance

Routine maintenance consists of monthly inspections of the pretreatment system, monthly water level measurements and data downloads, and quarterly inspections of the security fence, the transducers, and the surface cover around the entire perimeter of the barrier wall.

Routine maintenance performed in 2020 also included replacement of filter bags and replacement of desiccant for the transducer vent lines.

2.4.2. System Modifications and Non-routine Maintenance

Table 2 summarizes operational problems and non-routine events that occurred during the reporting period, including the date of the problem or event, the issues identified, how the issue was resolved, and the date the issue was resolved.

3. SUBSURFACE PERFORMANCE SUMMARY

This section summarizes the results of performance monitoring during operation of the HCIM in 2020.

3.1. Sampling Events during this Reporting Period

Two semiannual groundwater monitoring events and four quarterly water level measurement events were conducted at the site in 2020. Based on the previous sampling nomenclature for this site, these semiannual groundwater sampling events are referred to as Rounds 87 and 89 (Wood, 2020 and DOF, 2020).

Performance monitoring of the HCIM was performed pursuant to the most recent PMP (AMEC Geomatrix, 2009). The PMP specified the following performance monitoring activities:

- Quarterly water level measurements to evaluate the effects of the HCIM on the groundwater flow regime (including wells outside and inside the wall);
- Quarterly water quality monitoring of extraction well EX-3 for analysis of BTEX, total metals (aluminum, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, thallium, vanadium, and zinc), and routine field parameters (pH, specific conductivity, temperature, dissolved oxygen, oxidation/reduction potential, and turbidity);
- Semiannual water quality monitoring of exterior wells B1A, DM-8, MW-38R, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, and MW-46 for analysis of BTEX, total metals, and routine field parameters; and
- Annual water quality monitoring of wells located inside the barrier wall (DM-5, MW-17, MW-27, MW-28, and MW-29) for analysis of BTEX, total metals, and routine field parameters.

The well locations are shown in Figure 3, which clearly differentiates wells screened in the Upper Zone, Lower Zone, and Deep Aquifer.

3.2. Monitoring Results and Interpretation

This section describes the results of water level measurements and water quality analyses, and provides an analysis of HCIM performance based on the data.

3.2.1. Water Levels

Groundwater monitoring wells that are currently monitored and the frequency of the monitoring is shown on Figure 3. Most of the wells that are currently monitored are located along the barrier wall and in most cases, they are well pairs, with one of the wells screened in the Upper Zone of the shallow aquifer and one screened in the Lower Zone. At most locations, one well pair is inside the barrier wall and a second well pair is outside of the barrier wall.

The groundwater monitoring wells at the site are screened in three different zones. Upper Zone wells are screened in the sandier portions of the Shallow Aquifer at the site, at depths from approximately 15 to 40 feet below ground surface (bgs). Lower Zone wells are screened in the siltier portions of the Shallow Aquifer at the site, at depths ranging from approximately 45 to 70 feet bgs. Deep Aquifer wells are screened below the low permeability silt aquitard, at depths greater than 70 feet bgs.

The water level measurements are summarized in Table 5. The groundwater elevations in 2020 were within previous ranges historically recorded across the site. Water level trend charts for all wells measured in 2020 are provided in Appendix B.

Quarterly potentiometric surface contour maps and groundwater elevations measured at individual wells are shown in Figures 7 through 10 for the Upper Zone and in Figures 11 through 14 for the Lower Zone within the subsurface barrier wall. The water level elevation contours were not drawn for areas outside the subsurface barrier wall, because these water levels are affected by tides and do not reflect the average groundwater flow conditions. The manual water level measurements are collected at either high tide or low tide, independent of whether the groundwater extraction system wells are being pumped.

Figure 15 shows the locations of cross sections of groundwater elevations along the southern stretch of the barrier wall near Slip 6 and the western stretch of the wall near the Duwamish Waterway. The cross sections of quarterly water level elevations on the inside of the barrier wall are provided in Figure 16.

Average groundwater levels over a 72-hour period for DM-8 are also presented on Figure 16. During the two-month-long data gap investigation conducted in 2007, the average groundwater levels measured in DM-8 did not vary by more than 0.27 foot from the average water levels measured in other exterior Upper Zone monitoring wells located along Slip 6 and the Duwamish Waterway (Geomatrix, 2008a). Therefore, the tidally corrected average water levels determined for DM-8 is used to approximate the groundwater elevations in the Upper Zone on the outside of the south and west sides of the barrier wall, consistent with past reporting (Wood, 2020a).

The 72-hour average water level in DM-8, calculated for the time of manual water level measurements, was higher than all the water levels measured in the interior groundwater monitoring wells along Slip 6 and the Duwamish Waterway during 2020, as shown in the cross-sections in Figure 16. This indicates that an inward-directed horizontal hydraulic gradient along the western and southern barrier wall was established for the Shallow Aquifer and continued to exist through the end of December 2020.

Transducers installed in interior well MW-47 (Upper Zone) in the Northwest Group, interior wells MW-51 (Upper Zone) and MW-52 (Lower Zone) in the Southwest Group, and interior well MW-53 (Upper Zone) in the South Group continuously record the water levels in each well. The transducer in MW-53 was removed during the MW-49 transducer equipment failure on March 18 and was reinstalled on March 21, following replacement of the MW-49 transducer. The water level data are downloaded quarterly during scheduled quarterly sampling events. Figures B-10 through B-12 in Appendix B present the groundwater elevation trends in these wells for 2020.

Relative vertical gradients between interior well pairs screened in the Upper and Lower Zones are provided in Figure 17 and Table 6. Vertical gradients were calculated using EPA's online tools for calculating vertical gradients (EPA, 2007). Although the vertical gradients between the interior upper/lower well pairs are variable, the overall vertical gradients tend to be upward. MW-51/MW-52 in the Southwest Group and MW-28/PZ-63 in the Central Southwest Group both had net downward gradients for 2020. The strongest upward net vertical gradient occurred at MW-47/MW-48 in the South Group. These trends are consistent with past years.

Groundwater elevations in the Deep Aquifer wells (B1B and DM-3B) ranged between 2.07 and 4.29 feet higher than the water levels seen in the Shallow Aquifer (Table 5). This vertical gradient across the lower permeability silt aquitard supports an inward directed gradient for the barrier wall system.

The data in Table 5 show that groundwater elevations on the upgradient side of the wall (MW-57) in 2020 were between 2.95 and 4.56 feet higher than the corresponding water levels measured in MW-49. These data indicate that an inward-directed horizontal hydraulic gradient exists on the upgradient side of the barrier wall.

Conclusions from the water level measurements completed in 2020 are summarized below:

- Groundwater levels at wells inside the wall are similar to each other and maintain a generally flat gradient, with minor fluctuations due to pumping, infiltration, and tidal changes in the Deep Aquifer. The influence of the groundwater extraction system is reflected by the cone of depression seen in the groundwater surface when the pumps are active (September 2020).

- Groundwater levels in the Shallow Aquifer inside the barrier wall are lower than the average water level in exterior well DM-8, indicating that an inward-directed horizontal hydraulic gradient was present and maintained in 2020 (Figure 16).
- The vertically directed downward gradient in the southwest corner (MW-51 and MW-52) and the central southwest group (MW-28 and PZ-63) of the barrier wall indicates some variability associated with the local hydrodynamic behavior and flow paths inside the barrier wall in this area.

3.2.2. General Groundwater Quality Parameter Measurements

The general parameter field measurements for pH, temperature, specific conductivity, dissolved oxygen, oxidation/reduction potential, and turbidity from 2020 are summarized in Table 7, and pH readings are shown on Figures 18 and 19. Trend charts showing general parameter measurements since August 2003 for the barrier wall perimeter wells, are provided in Appendix C. During each monitoring event, the general parameters were measured at selected monitoring wells to see if any changes in general water chemistry have occurred since implementation of the HCIM.

3.2.2.1. Dissolved Oxygen

Dissolved oxygen readings have generally declined in all wells, both inside and outside the barrier wall, since August 2003 (Wood, 2020a).

Dissolved oxygen readings were at or close to zero in most of the wells monitored during 2020, with no dissolved oxygen values greater than 1.0 mg/L (Table 7).

3.2.2.2. Specific Conductivity

Specific conductivity ranged from a low of 799 microsiemens per centimeter in March at well MW-38R (an Upper Zone well in the northwestern portion of the site located outside the barrier wall), to a high of 13,400 microsiemens per centimeter in September at MW-40 (a Lower Zone well in the southwestern portion of the site located outside the barrier wall). These specific conductivity values are consistent with past years and seasonal observations.

The only notable trends observed for specific conductivity in groundwater samples are from exterior well MW-41, which has been increasing since 2016, exterior wells in the South Group (MW-43 and MW-44), which have been increasing since 2003, and exterior well MW-46, which has been increasing since 2015.

3.2.2.3. pH

pH values measured in 2020 are consistent with historical pH measurements from each well. pH is highest in monitoring wells MW-43 and MW-44, in the area of historic caustic releases. Elevated pH levels are present in monitoring wells MW-28 (shallow zone well in source area) and MW-41 (shallow zone well in southwest group), also consistent with historic caustic releases.

Currently monitored wells under the Performance Monitoring Plan (AMEC Geomatrix, 2009) are outside of the radius of influence of the CO_2 pilot study area that targeted high pH.

3.2.2.4. Other Water Quality Parameters

The temperature of the groundwater varies seasonally (from highs of nearly 20 degrees Celsius to lows of approximately 13 degrees Celsius), due to changes in groundwater temperature and ambient air temperature as the readings are being collected.

Turbidity is generally higher in the Lower Zone wells but has generally been stable in the groundwater collected from monitoring wells in both zones and does not show a significant trend in any of the wells monitored.

Redox potential measured in 2020 was consistent with historical measurements across the site, with all exterior wells exhibiting reducing (negative) conditions, consistent with low dissolved oxygen discussed above.

3.2.3. Groundwater Analytical Results

The water quality monitoring results for COCs detected above the PRGs for the site from the 2020 performance monitoring events (Rounds 87 and 89) are summarized in Table 8.

Trend charts for toluene, total copper, total arsenic, total aluminum, total chromium, total lead, and total vanadium for the water quality monitoring during these rounds, as well as previous rounds were provided in the Round 87 and Round 89 Performance Monitoring Reports (Wood, 2020b and DOF, 2020).

EPA established PRGs for the site in a memorandum dated March 17, 2014 (EPA, 2014). The PRGs address contaminants that have been found in soil, groundwater, and/or sediment at the site. The PRGs reflected current toxicity values at the time, consistent with the site physical conditions and the reasonably anticipated potential exposure assumptions for the site (EPA, 2014). These PRGs are currently used to screen results of groundwater chemistry sampling.

3.2.3.1. Total Copper

Copper trends are described in this section and concentrations for 2020 are presented on Figures 18 and 19.

Exterior Wells

- **Decreasing concentrations:** Wells MW-40 and MW-41.
- **No clear trends in concentration (stable):** Wells B1A, MW-38R, MW39, DM-8, MW-42, MW-43, MW-44, MW-45, and MW-46.
- **Increasing concentrations:** None.

Interior Wells

- **Decreasing concentrations:** None.
- **No clear trends in concentration (stable):** Wells DM-5, MW-17, MW-27, MW-28, and MW-29.
- **Increasing concentrations:** Copper concentration in samples from well EX-3 been trending upward since in 2016; this may be caused by long term groundwater extraction in EX-3 as part of HCIM operations. EX-3 is the pumping well located closest to the area of high copper concentrations.

Elevated copper concentrations are still present in the groundwater within the barrier wall, centered on MW-28 at 64.7 µg/L (Table 8). Outside the barrier wall, the groundwater sample from MW-44 in the

South Group along Slip 6 had the highest copper concentration during Round 89 at 71.6 µg/L. All three of the exterior wells with elevated copper concentrations (MW-41, MW-43, and MW-44) in 2020 also had pH readings above 10 standard units (Table 7) during the 2020 sampling events. These concentrations and pH conditions are consistent with historic observations for the site.

3.2.3.2. Total Arsenic

Arsenic trends are described in this section and concentrations for 2020 are presented on Figures 18 and 19.

Exterior Wells

- **Decreasing concentrations:** None.
- **No clear trends in concentration (stable):** Wells B1A, DM-8, MW-38/-38R, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, and MW-46.
- **Increasing concentration trend:** None.

Interior Wells

- **Decreasing concentrations:** None.
- **No clear trends in concentration (stable):** Wells MW-17, MW-27, MW-28, MW-29, DM-5, and EX-3.
- **Increasing concentrations:** None.

The highest concentrations of arsenic during 2020 (Table 8) were detected during Round 89 in the groundwater samples from exterior well MW-43 at 17.1 µg/L and interior well DM-5 at 39.3 µg/L. The only samples from exterior wells with concentrations of arsenic above the PRG of 8 µg/L were from exterior wells MW-43 and MW-44 during Rounds 87 and 89 and from interior well DM-5 during Round 89. These results are consistent with historic values at these locations.

3.2.3.3. Total Mercury

Mercury was detected sporadically during the 2020 sampling events in the groundwater samples collected from interior and exterior monitoring wells above the PRG (0.01 µg/L). Total mercury concentrations outside the wall were observed to be the highest (0.10 µg/L) in wells MW-43 and MW-44, in Round 89 and Round 87, respectively. These monitoring well locations coincide with the location of high pH on the site and are likely elevated due to the pH. No trend plots are prepared for mercury because concentrations have historically hovered around the reporting limit without apparent trends.

3.2.3.4. Toluene

Toluene trends are described in this section and concentrations for 2020 are presented on Figures 18 and 19. Groundwater samples from 12 of the 17 wells had no detectable toluene during Round 87 or 89.

Exterior Wells

- **Decreasing concentrations:** None.
- **No clear trends in concentration (stable):** Wells B1A, DM-5, DM-8, MW-38/-38R, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, and MW-46. Toluene concentrations in these wells have been well below the PRGs since the construction of the barrier wall.

- **Increasing concentrations:** None.

Interior Wells

- **Decreasing concentrations:** MW-28.
- **No clear trends in concentration (stable):** Wells DM-5, MW-17, MW-27, MW-29, and EX-3. Toluene concentrations in these wells have been well below the PRGs since the construction of the barrier wall with the exception of MW-17. A detection above the PRG was noted in 2017, but all other detections have been below the PRG since 2013. Concentration in MW-17 steeply declined between 2010 and 2013.

In general, toluene concentrations inside the barrier wall have degraded significantly since installation of the barrier wall, with the highest detection in 2020 occurring at well MW-28 with a concentration of 2.72 µg/L, well below the PRG. Toluene concentrations outside the barrier wall have been below the PRG since the implementation of the HCIM with the highest concentrations regularly occurring in well MW-44. Concentrations in MW-44 were 291 µg/L and 250 µg/L for Round 87 and Round 89, respectively.

3.2.3.5. Other Metals

Trends for other metals are described in this section.

Total Aluminum

Exterior Wells

Aluminum concentrations have remained stable in exterior monitoring wells since the completion of the barrier wall, with some seasonal variations (monitoring well B1A). The aluminum concentrations in groundwater samples from exterior monitoring wells DM-8, MW-40, MW-41, MW-44, MW-45, and MW-46 show a decreasing trend over time. All of the exterior monitoring wells showed aluminum concentrations exceeding the PRG of 87 µg/L.

Interior Wells

Aluminum concentrations in the groundwater samples collected from interior wells have remained stable since completion of the barrier wall, except for MW-27, where concentrations have fluctuated since 2016. All of the interior wells except MW-29 had concentrations of aluminum above the PRG.

Total Chromium

Exterior Wells

Chromium has been detected in the groundwater samples from exterior monitoring well MW-43 at concentrations above the PRG of 100 µg/L since 2008 and concentrations continued to display a stable trend in 2020 . There are no other exterior wells with chromium at concentrations above the PRG.

Interior Wells

DM-5 and MW-28 are the only interior monitoring wells with chromium in groundwater at concentrations above the PRG. Chromium at DM-5 has remained stable slightly above the PRG for the last several monitoring events. Chromium in MW-28 has slightly increased the last few years, with concentrations exceeding the PRG in 2019 for the first time.

Total Lead

Exterior Wells

Lead concentrations in groundwater samples collected from exterior wells have remained stable since completion of the barrier wall. Lead was detected at concentrations above the PRG of 2.5 µg/L during Rounds 87 and 89 in the groundwater samples from exterior monitoring wells MW-43 and MW-44.

Interior Wells

Lead concentrations in groundwater samples collected from interior wells have also been stable over time. DM-5, MW-27, MW-28, and MW-29 are the interior wells with concentrations of lead in the groundwater at concentrations above the PRG of 2.5 µg/L in 2020; though MW-27 and MW-29 show variability both above and below the PRG historically.

Total Vanadium

Exterior Wells

Vanadium concentrations in groundwater samples collected from exterior wells have been stable since completion of the barrier wall. Vanadium was detected at concentrations above the PRG of 63 µg/L in exterior monitoring wells MW-41, MW-43, and MW-44 during 2020. These results are consistent with previous years.

Interior Wells

Vanadium concentrations in groundwater samples collected from interior wells have also been stable over time, except for samples collected from MW-27, which have decreased significantly since the installation of the barrier wall. Vanadium was detected at concentrations above the PRG of 63 µg/L in interior monitoring wells DM-5, MW-17, MW-28, and EX-3 during 2020. These results are consistent with previous years.

3.2.3.6. Summary

The conclusions from the water quality monitoring data collected since the completion of the barrier wall are as follows:

- Concentrations of total copper in groundwater samples from interior and exterior monitoring wells exhibit generally stable trends. Decreasing trends are present at interior wells MW-40 and MW-41. An increasing trend is observed at interior pumping well EX-3.
- Concentrations of total arsenic in groundwater samples from all monitoring wells were below the PRG in 2020, except for exterior wells MW- 43 and MW-44 and interior monitoring well DM-5.
- Concentrations of total mercury in groundwater samples from the exterior monitoring wells were generally below the reporting limit, but when detected, concentrations ranged from 0.083 µg/L to 0.10 µg/L, above the PRG, but mercury has not been detected consistently in any well. All mercury detections, and the reporting limits, are equivalent or above the PRG of 0.01 µg/L, even with low-level methods.
- Concentrations of mercury in groundwater samples from the interior

monitoring wells ranged from 0.011 µg/L to 0.087 µg/L in 2020.

- Toluene concentrations were all below the PRG in 2020.
- Three of the primary COCs (copper, arsenic, and toluene) were detected outside the location of the barrier wall before the installation of the barrier wall (Geomatrix, 2003b). Of these three COCs, copper was the only one with concentrations that generally exceeded the screening levels. Since the barrier wall installation, copper, arsenic, and toluene concentrations outside the wall have all generally either decreased or shown stable trends. Some wells show seasonal fluctuations, but remain generally stable.
- Total aluminum, chromium, lead, and vanadium concentrations in the groundwater samples collected from the exterior and interior wells generally have been stable since the installation of the barrier wall.

3.2.4. Other Monitoring Results

Specific capacity for EX-1, EX-2, and EX-3 was measured in 2020, as described in Section 2.2.2, in accordance with the Revised Operation, Monitoring, Inspection, and Maintenance Plan (AMEC Geomatrix, 2010).

Copies of the 2020 inspection forms, maintenance resolution forms, and transducer check forms are included in Appendix D. The first quarter 2020 transducer calibration check form was not completed due to the discovery of the MW-49 transducer failure. The calibration for the new transducer and DM-8 were performed on March 21, 2020 and calibration information was recorded in the field book.

3.3. Interpretation of Progress Toward System Goals

This section evaluates progress toward achieving the goals of the HCIM.

3.3.1. Progress with Respect to Short-Term Goals

The immediate goal for the HCIM is to contain contaminated groundwater via the wall and maintaining an inward-directed horizontal hydraulic gradient, thereby preventing the contaminated groundwater from reaching the Duwamish Waterway. This goal is being met, based on the following O&M data:

- The HCIM has been in compliance with the performance standard of a 1-foot differential groundwater elevation between the exterior and interior of the barrier wall since February 23, 2004. Groundwater levels inside the barrier wall in the Shallow Aquifer have been lower than the average groundwater levels outside the barrier wall since March 2004, indicating that an inward-directed horizontal hydraulic gradient has been maintained (Wood, 2020a).
- Although a downward vertical hydraulic gradient exists in the interior performance monitoring wells in the Southwest Group, this gradient has not affected the performance of the HCIM. Data indicate that the HCIMis maintaining an inward-directed hydraulic gradient in the Shallow Aquifer despite the presence of downward vertical hydraulic gradients in a small part of the containment area.
- Concentrations of the primary site COCs (toluene, copper, arsenic) in groundwater samples from the performance monitoring wells are generally stable or declining.

3.3.2. Progress with Respect to Long-term Goals

The HCIM has been successful in controlling releases from the HCIM area to the Duwamish Waterway. Concentrations of copper, arsenic, and other metals still exceed the PRGs in several wells outside the barrier wall, but show stable or decreasing trends. Toluene concentrations in all of the exterior monitoring wells are below the PRG. The property has been redeveloped and is capable of productive use.

4. RECOMMENDED ACTIONS

No recommended actions are proposed at this time. The respondents are currently working with the EPA on a Corrective Measures Study (CMS) Data Gaps Work Plan for implementation in 2021.

5. REFERENCES

AGI Technologies, 1999, Risk Assessment/Media Cleanup Standards Report, Former Rhone-Poulenc East Marginal Way Facility, Tukwila, Washington, November 28.

AGI Technologies, 2001, Summer 2001 Geoprobe Investigation Report, Former Rhone-Poulenc East Marginal Way Facility, Tukwila, Washington, October 8.

AMEC Geomatrix, Inc. (AMEC Geomatrix), 2009, Interim Measures Performance Monitoring Plan, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties, LLC, Tukwila, Washington, revised November 5.

AMEC Geomatrix, 2010, Revised Operation, Monitoring, Inspection, and Maintenance Plan, Former Rhone- Poulenc Site, Tukwila, Washington, January.

CH2M HILL, 1995, Final RCRA Facility Investigation Report, June 19. EPA – see U.S. Environmental Protection Agency.

Geomatrix, 2003b, Revised Pre-Construction Groundwater Monitoring Report, December 2002 (Round 17), Former Rhone-Poulenc Site: Prepared for Container Properties, LLC, Tukwila, Washington, July.

Geomatrix, 2008a, Performance Monitoring Report, Round 38, December 2007, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties, LLC, Tukwila, Washington, February.

Landau Associates (Landau), 1991, Site Assessment, Rhone-Poulenc Facility, Tukwila, Washington, September 10.

PRC Environmental Management (PRC), 1990, Rhone-Poulenc, Inc. Marginal Way Facility, Seattle, Washington, RCRA Facility Assessment, March 19.

URS, 2002b, Hydraulic Control Interim Measure Construction Work Plan, October 25.

EPA, 2006, Letter from Richard Albright (EPA) to Gary Dupuy (Geomatrix Consultants, Inc.), RE: Final Decisions regarding Corrective Action for the East Parcel Administrative Order on Consent for Corrective Action (Order) Under the Resource Conservation and Recovery Act (RCRA), December 20.

EPA, 2007, On-Line Tools for Site Assessment Calculation – Vertical Gradients with Well Screen Effects, http://www.epa.gov/athens/learn2model/ part-two/onsite/vgradient02.html, accessed February 12.

EPA, 2014, Preliminary Remediation Goals for Rhone-Poulenc Inc. Marginal Way Facility, West Parcel, Tukwila, Washington, WAD 00928 2302. March 17.

Wood Environment and Infrastructure Solutions, Inc. (Wood), 2020a, Operations and Maintenance Report, 2019, March 2020, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties, LLC, Tukwila, Washington, March.

Wood Environment and Infrastructure Solutions, Inc. (Wood), 2020b, Performance Monitoring Report, Round 87, May 2020, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Properties, LLC, Tukwila, Washington, May.

Dalton, Olmsted, & Fuglevand, Inc. (DOF), 2020, Performance Monitoring Report, Round 89, December 2020, Former Rhone-Poulenc Site, Tukwila, Washington: Prepared for Container Properties, LLC, Tukwila, Washington, December.

Figures

Source: Aerial Photography-Google Earth Pro, 05/26/2018.

Legend

Site Boundary

N

0 2000

Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

SITE LOCATION

DALTON OLMSTED FUGLEVAND

FIGURE 1

01/29/2021

PLOT TIME: 1/29/2021 1:52 PM MOD TIME: 1/29/2021 1:51 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-01\2021-01 Container Props Rhone-Poulenc Vic Map.dwg

GROUNDWATER PRETREATMENT BUILDING

KING COUNTY SANITARY SEWER

EX-1

EX-2

EX-3

KING COUNTY LEASE PROPERTY

MUSEUM OF FLIGHT PROPERTY

ORDINARY HIGH WATER LINE (9.49' - NAVD88)

MW-49

DM-8

DUWAMISH WATERWAY

SLIP 6

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- 1" ELECTRICAL CONDUIT
- 4" ELECTRICAL CONDUIT
- EXTRACTION WELL PIPE
- DISCHARGE PIPE
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- FENCE

NOTE:

1. DM-8 AND MW-49 WATER LEVELS ARE AUTOMATICALLY LOGGED AS PART OF HCIM PRETREATMENT SYSTEM.

N

0 80

Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

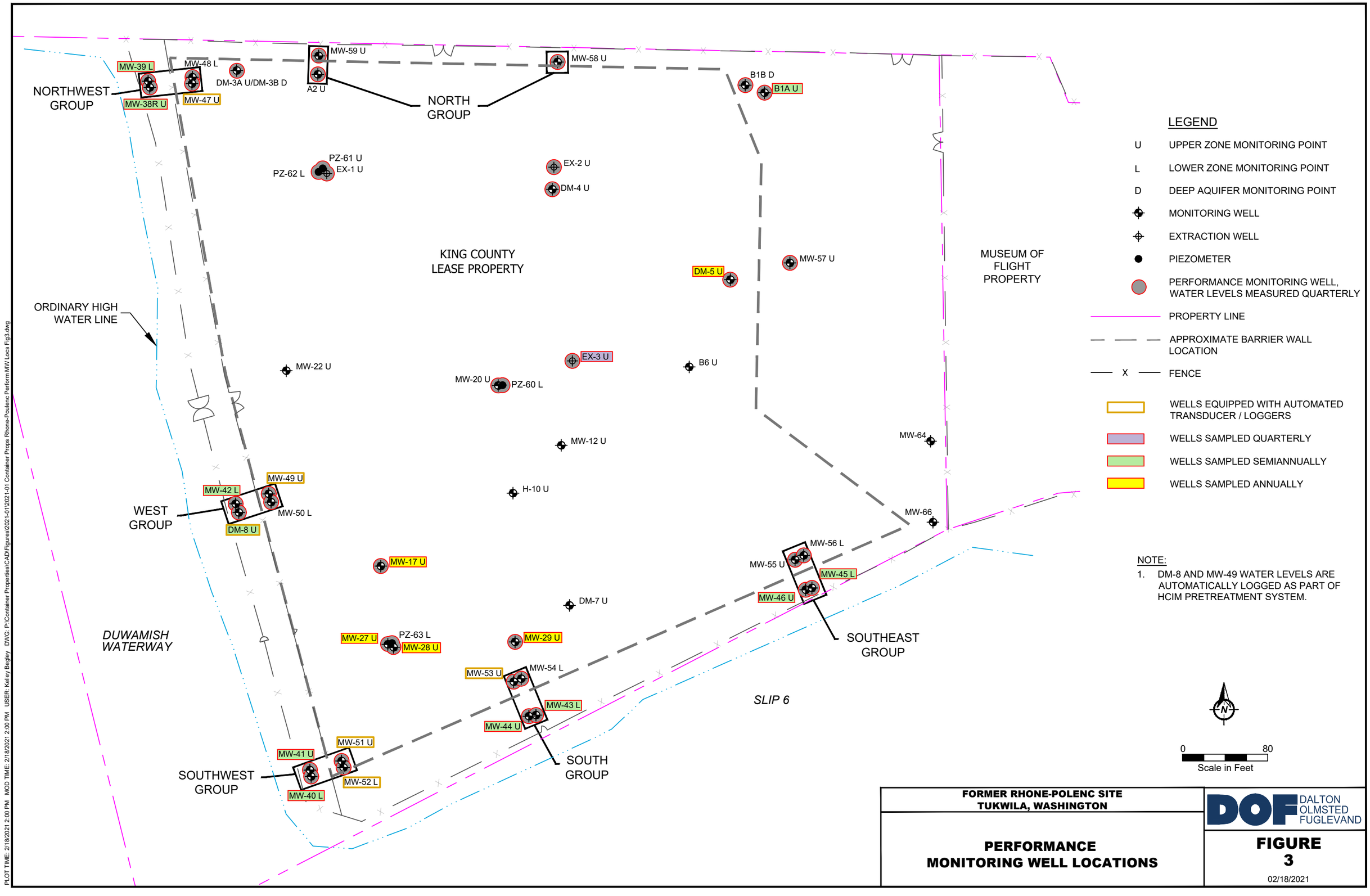
SITE PLAN
HYDRAULIC CONTROL INTERIM MEASURE

DALTON OLMSTED FUGLEVAND

FIGURE 2

01/29/2021

PLOT TIME: 1/29/2021 12:25 PM MOD TIME: 1/29/2021 12:20 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-01\2021-01 Container Props Rhone-Poulenc Hydr Control Interim Meas.dwg



FORMER RHONE-POLENC SITE
TUKWILA, WASHINGTON

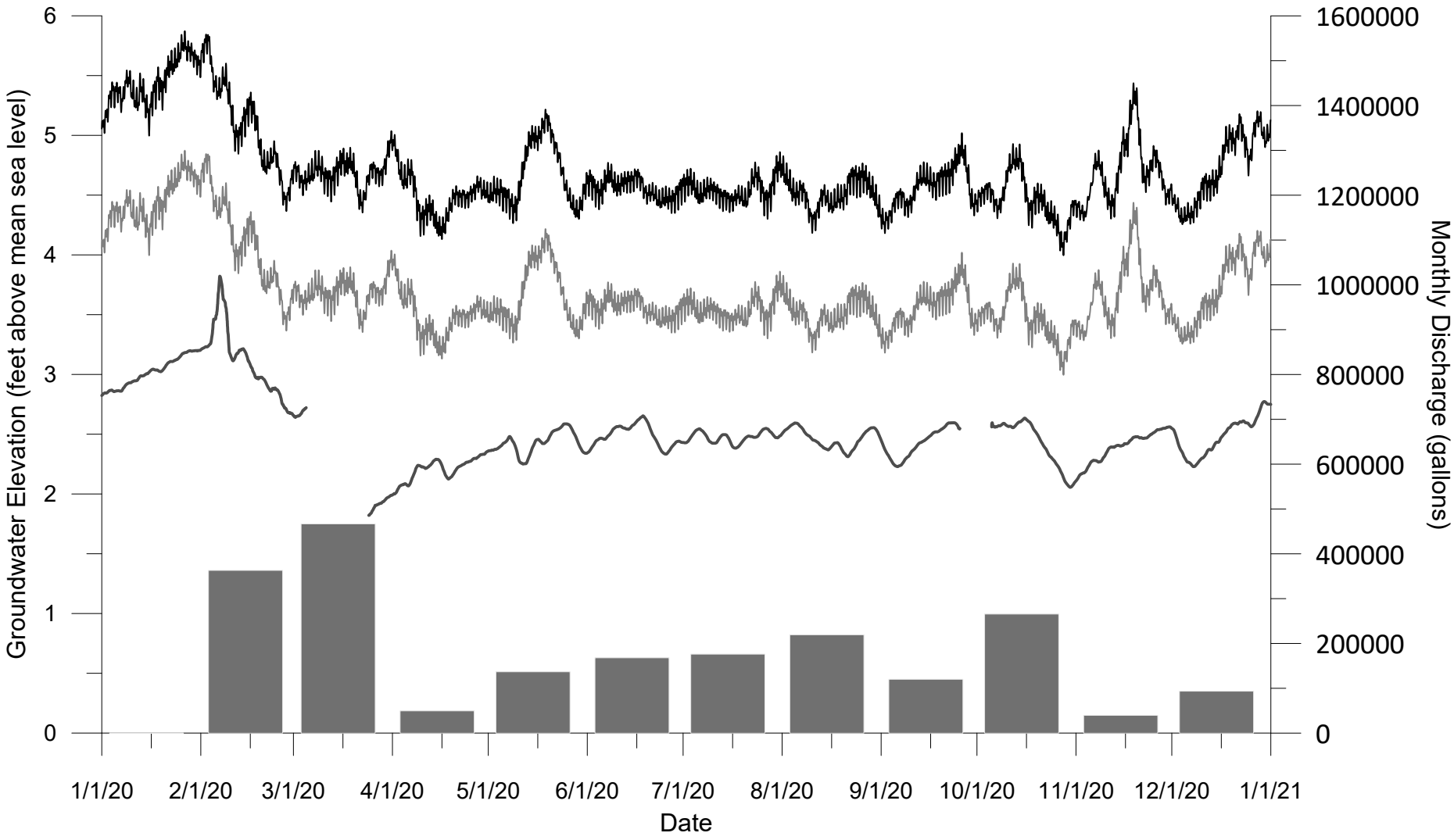
PERFORMANCE MONITORING WELL LOCATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 3

02/18/2021

PLOT TIME: 2/18/2021 2:00 PM MOD TIME: 2/18/2021 2:00 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-01\2021-01 Container Props Rhone-Poulenc Perform MW Locs Fig3.dwg



Notes:

1. Vertical datum is NAVD88.
2. All water levels are based on a 72 hour moving average as recorded using transducers and on-site programmable logic controller.
3. Data gap in MW-49 (Inside Wall) in March, 2020 due to transducer failure.
4. Data gap in MW-49 (Inside Wall) in September 2020 due to transducer communication error.

PROJECT NO. CON-001

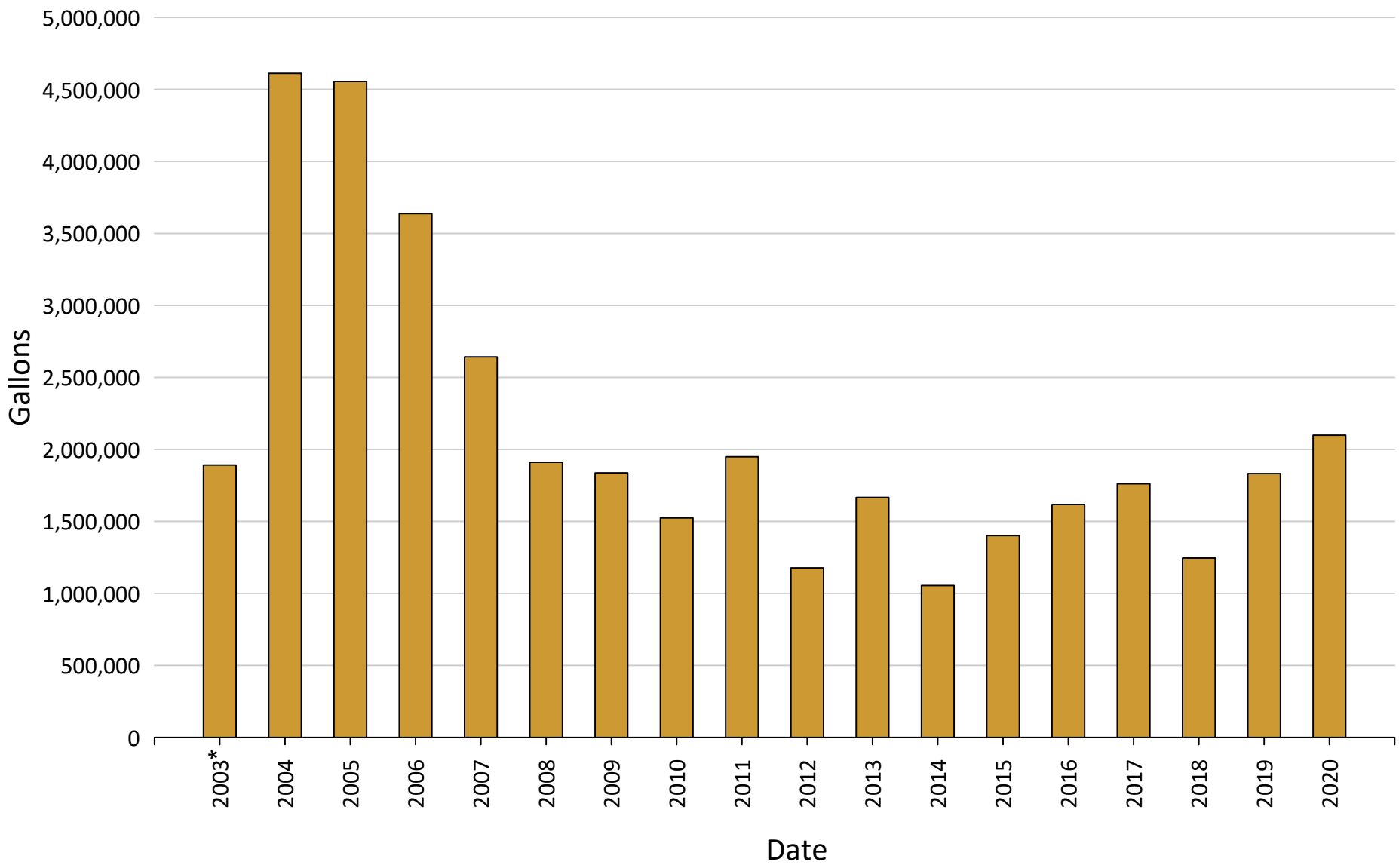
Former Rhone-Poulenc Site
Tukwila, Washington

2020 PERFORMANCE MONITORING AVERAGE GROUNDWATER ELEVATIONS: DM-8 & MW-49 & MONTHLY DISCHARGE TOTALS

DOF DALTON OLMSTED FUGLEVAND

FIGURE - **4**

P:\Container Properties\Grapher Files\O&M Figure 4.grf



Notes:
Installation of asphalt cap in 2007
*This 2003 total only represents 5 months of pumping (Aug. - Dec.)

Former Rhone-Poulenc Site
Tukwila, Washington

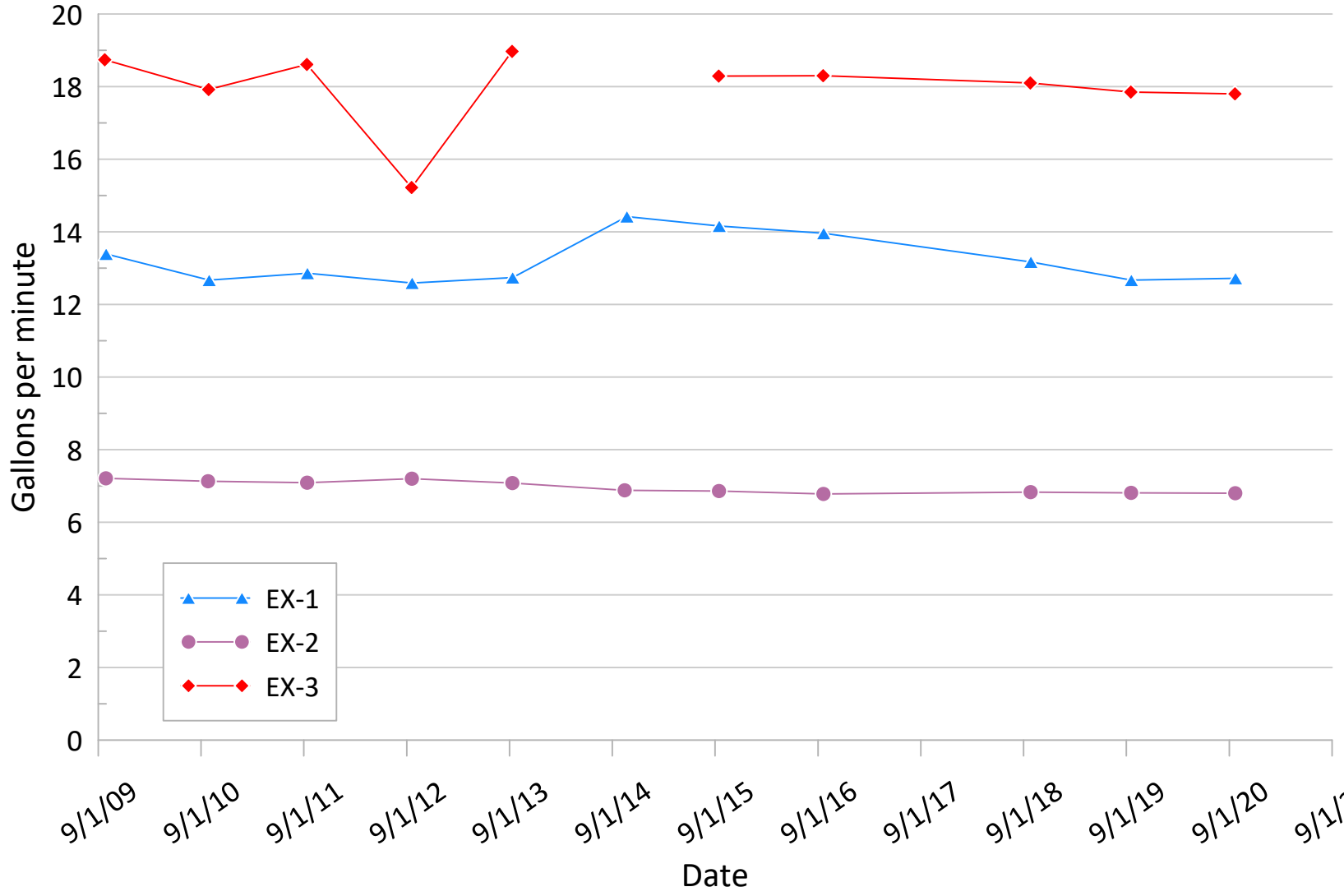
AVERAGE GROUNDWATER DISCHARGE VOLUMES

PROJECT NO.
CON-001

DOF DALTON OLMSTED FUGLEVAND

FIGURE - 5

P:\Container Properties\Grapher Files\O&M Figure 6



Notes:

1. Flowrate values are from stabilized flow recorded during annual specific capacity testing.

Former Rhone-Poulenc Site
Tukwila, Washington

EXTRACTION WELL FLOW TRENDS

PROJECT NO.
CON-001

DALTON OLMSTED FUGLEVAND

FIGURE - 6

P:\Container Properties\Grapher Files\O&M Figure 7

NORTHWEST GROUP
MW-39 L
MW-48 L
DM-3A U/DM-3B D 2.02
MW-38R U 6.06
MW-47 U 1.68
MW-59 U 5.94
A2 U 1.67
NORTH GROUP
MW-58 U 6.01
B1B D
B1A U 9.53
PZ-61 U 1.53
PZ-62 L
EX-1 U 1.73**
KING COUNTY LEASE PROPERTY
EX-2 U 1.80
DM-4 U 1.70
DM-5 U 1.93
MW-57 U 6.20
MUSEUM OF FLIGHT PROPERTY
ORDINARY HIGH WATER LINE (9.49'-NAVD88)
INTERNAL GROUPS
EX-3 U 1.82
MW-20 U 1.70
PZ-60 L
MW-64
MW-66
MW-49 U 1.64
MW-42 L
MW-50 L
WEST GROUP
DM-8 U 5.71
MW-17 U 1.54
MW-56 L
MW-55 U 1.97
MW-45 L
MW-46 U 6.44
SOUTHEAST GROUP
1.8
2.0
2.2
2.4
2.6
1.6
DUWAMISH WATERWAY
PZ-63 L
MW-27 U NM
MW-28 U 1.67
MW-29 U 1.52
MW-53 U 1.65
MW-54 L
MW-43 L
MW-44 U 6.17
SLIP 6
MW-51 U 2.88
MW-41 U 6.20
MW-52 L
MW-40 L
SOUTHWEST GROUP
SOUTH GROUP

LEGEND

- U — UPPER ZONE MONITORING POINT
- L — LOWER ZONE MONITORING POINT
- D — DEEP AQUIFER MONITORING POINT
- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- PERFORMANCE MONITORING WELL, WATER LEVEL MONITORING
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- X — FENCE
- 1.93 — GROUNDWATER ELEVATION (FEET)
- 2.0 — GROUNDWATER ELEVATION CONTOURS (0.2 FOOT INTERVAL) (DASHED WHERE INFERRED)
- ** — GROUNDWATER ELEVATIONS NOT INCLUDED IN CONTOURING

NOTES:
1. EXTRACTION WELLS HAD NOT BEEN PUMPING FOR AT LEAST 24 HOURS PRIOR TO WATER LEVEL MEASUREMENTS.
2. WATER LEVELS AT EXTERIOR WELLS WERE NOT USED FOR CONTOURING.
3. VERTICAL DATUM IS NAVD88 (FEET).

N

0 80
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

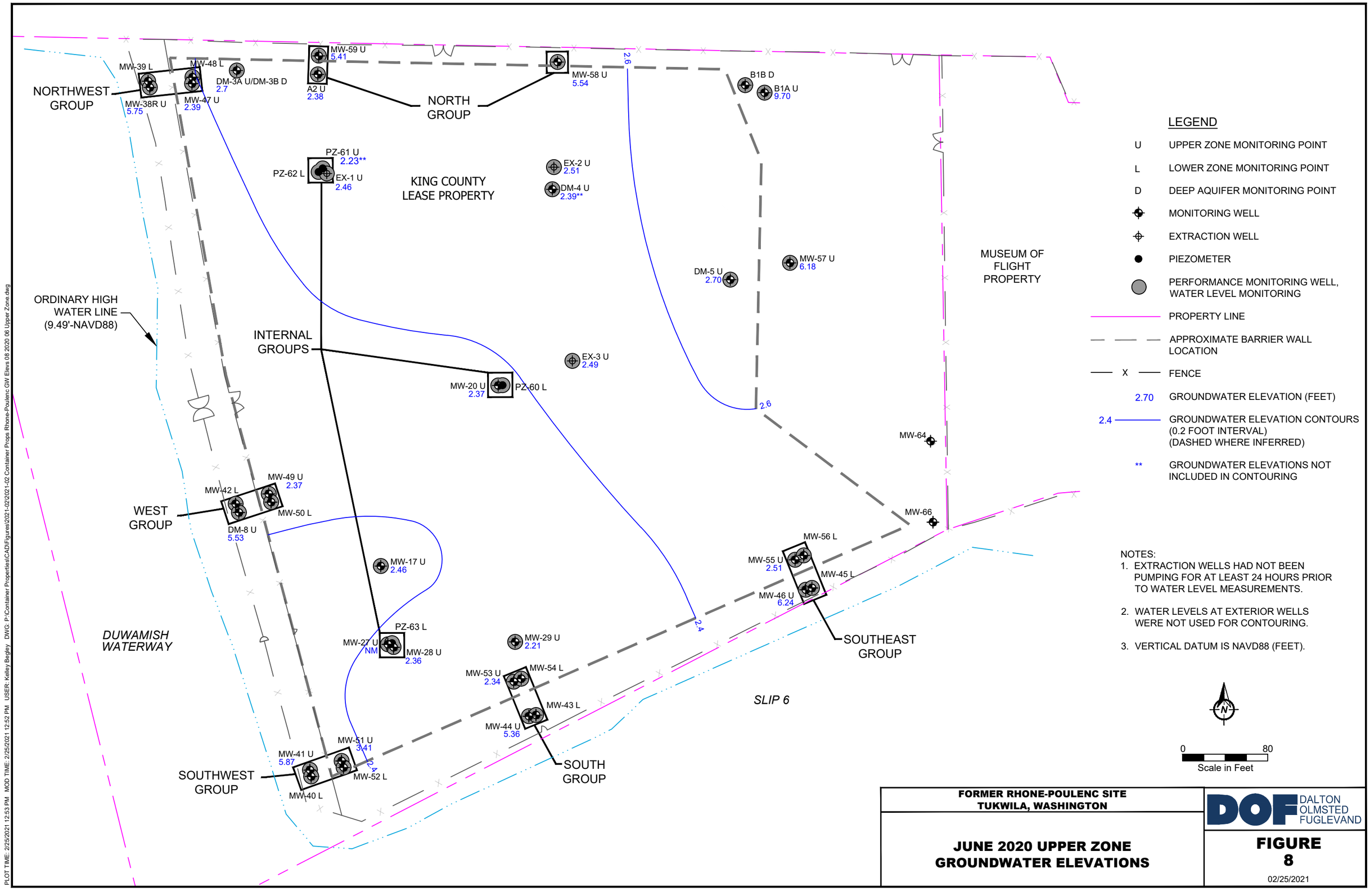
MARCH 2020 UPPER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 7

02/25/2021

PLOT TIME: 2/25/2021 12:50 PM MOD TIME: 2/25/2021 12:47 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-02\2021-02 Container Properties Rhone-Poulenc GW Elevs 07 2020 03 Upper Zone.dwg



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FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

JUNE 2020 UPPER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 8

02/25/2021

NORTHWEST GROUP
MW-39 L
MW-48 L
MW-38R U 6.15
MW-47 U 2.57
DM-3A U/DM-3B D 2.72
MW-59 U 5.08
A2 U 2.51
NORTH GROUP
MW-58 U 5.03
2.6
B1B D
B1A U 9.03
PZ-61 U 2.41**
PZ-62 L
EX-1 U 2.58
KING COUNTY LEASE PROPERTY
EX-2 U 2.78**
DM-4 U 2.58
MUSEUM OF FLIGHT PROPERTY
DM-5 U 2.80
MW-57 U 5.53
ORDINARY HIGH WATER LINE (9.49'-NAVD88)
INTERNAL GROUPS
EX-3 U 2.65
MW-20 U 2.56
PZ-60 L
MW-64
MW-66
MW-49 U 2.58
MW-42 L
MW-50 L
WEST GROUP
DM-8 U 6.38
MW-17 U 2.46
MW-56 L
MW-55 U 2.64
MW-45 L
MW-46 U 8.21
SOUTHEAST GROUP
DUWAMISH WATERWAY
PZ-63 L
MW-27 U NM
MW-28 U 2.63
MW-29 U 2.43
MW-53 U 2.53
MW-54 L
MW-43 L
MW-44 U 6.73
SLIP 6
MW-51 U 3.39
MW-41 U 7.19
MW-52 L
MW-40 L
SOUTHWEST GROUP
SOUTH GROUP
2.6
2.8
3.0
3.2

LEGEND

- U — UPPER ZONE MONITORING POINT
- L — LOWER ZONE MONITORING POINT
- D — DEEP AQUIFER MONITORING POINT
- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- PERFORMANCE MONITORING WELL, WATER LEVEL MONITORING
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- X — FENCE
- 2.80 — GROUNDWATER ELEVATION (FEET)
- 2.6 — GROUNDWATER ELEVATION CONTOURS (0.2 FOOT INTERVAL) (DASHED WHERE INFERRED)
- ** — GROUNDWATER ELEVATIONS NOT INCLUDED IN CONTOURING

NOTES:
1. EXTRACTION WELLS WERE OPERATING DURING WATER LEVEL MEASUREMENTS.
2. WATER LEVELS AT EXTERIOR WELLS WERE NOT USED FOR CONTOURING.
3. VERTICAL DATUM IS NAVD88 (FEET).

N

0 80
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

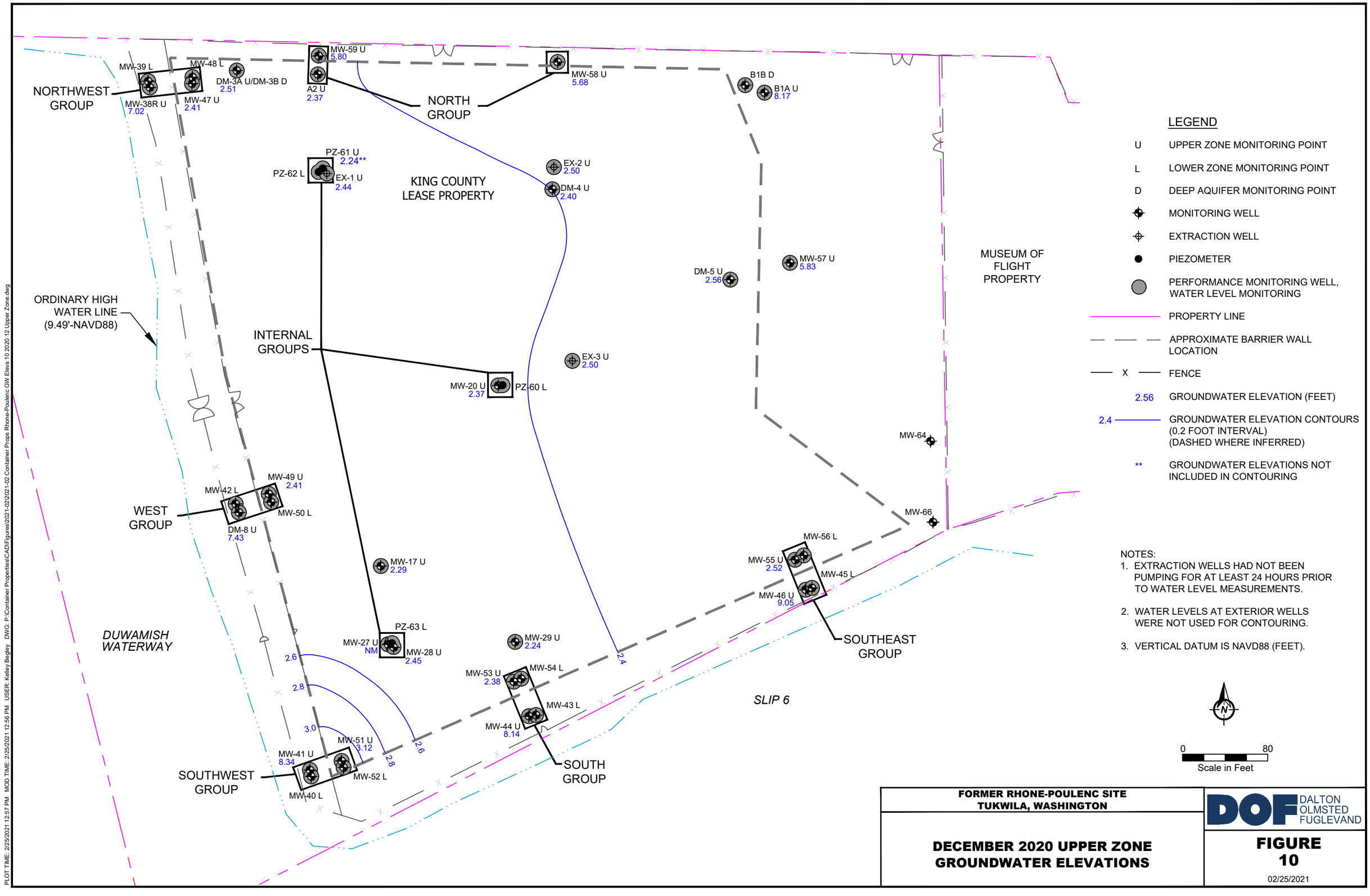
SEPTEMBER 2020 UPPER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 9

02/25/2021

PLOT TIME: 2/25/2021 12:54 PM MOD TIME: 2/25/2021 12:54 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-02\2021-02 Container Properties Rhone-Poulenc GW Elevs 09 2020 09 Upper Zone.dwg



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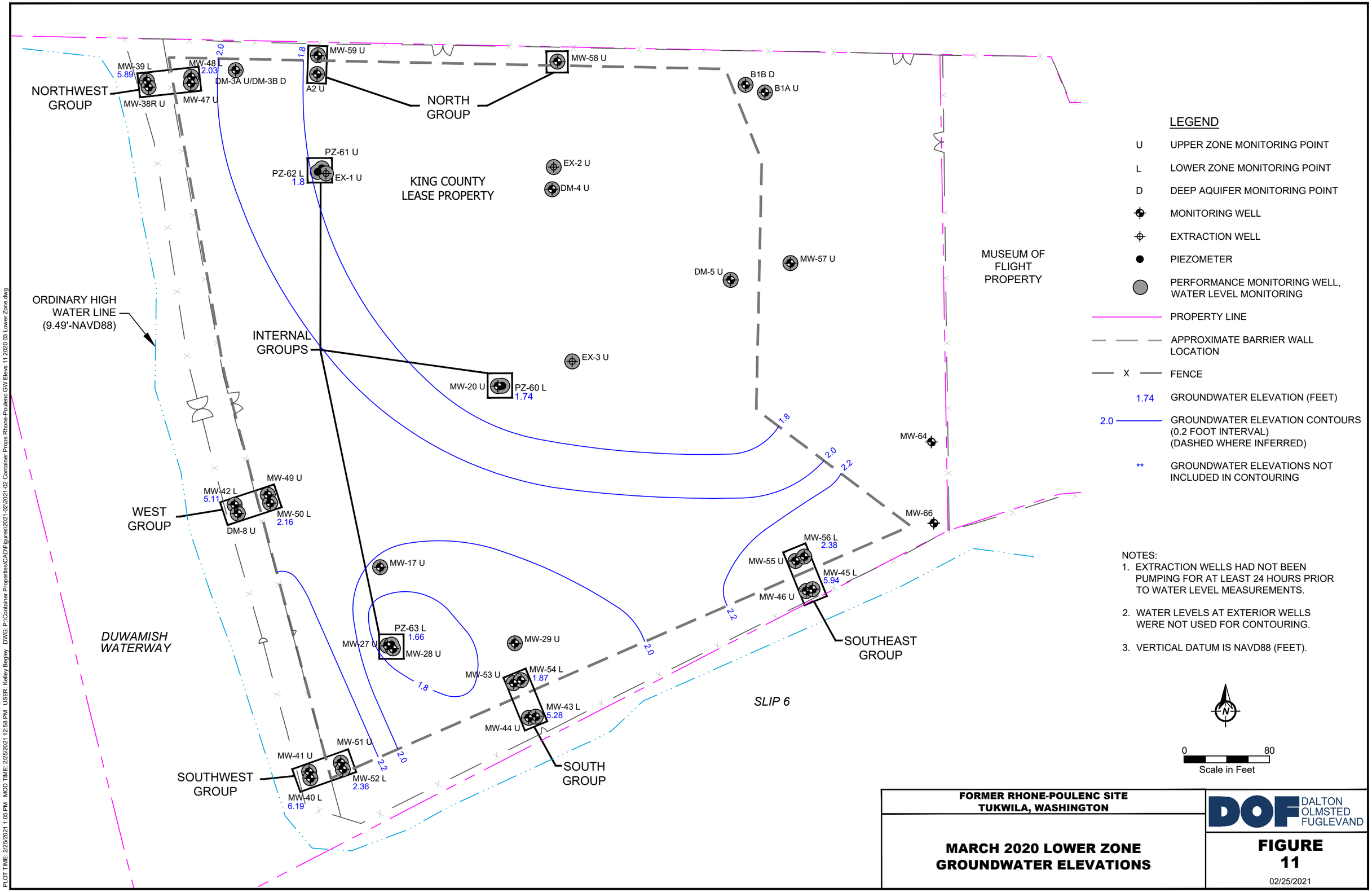
FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

DECEMBER 2020 UPPER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 10

02/25/2021



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FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

MARCH 2020 LOWER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 11

02/25/2021

NORTHWEST GROUP
MW-39 L 5.50
MW-48 L 2.65
MW-38R U
MW-47 U
DM-3A U/DM-3B D
MW-59 U
A2 U
NORTH GROUP
MW-58 U
B1B D
B1A U
PZ-61 U
PZ-62 L 2.36
EX-1 U
KING COUNTY LEASE PROPERTY
EX-2 U
DM-4 U
MUSEUM OF FLIGHT PROPERTY
DM-5 U
MW-57 U
ORDINARY HIGH WATER LINE (9.49'-NAVD88)
INTERNAL GROUPS
EX-3 U
MW-20 U
PZ-60 L 2.45
MW-64
MW-66
WEST GROUP
MW-49 U
MW-42 L 4.55
MW-50 L 2.82
DM-8 U
MW-17 U
MW-56 L 2.95
MW-55 U
MW-45 L 5.07
MW-46 U
SOUTHEAST GROUP
DUWAMISH WATERWAY
PZ-63 L 2.34
MW-27 U
MW-28 U
MW-29 U
MW-53 U
MW-54 L 2.58
MW-43 L 4.01
MW-44 U
SLIP 6
SOUTHWEST GROUP
MW-41 U
MW-51 U
MW-52 L 2.86
MW-40 L 5.82
SOUTH GROUP
2.4
2.6
2.8

LEGEND

- U — UPPER ZONE MONITORING POINT
- L — LOWER ZONE MONITORING POINT
- D — DEEP AQUIFER MONITORING POINT
- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- PERFORMANCE MONITORING WELL, WATER LEVEL MONITORING
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- X — FENCE
- 2.45 — GROUNDWATER ELEVATION (FEET)
- 2.6 — GROUNDWATER ELEVATION CONTOURS (0.2 FOOT INTERVAL) (DASHED WHERE INFERRED)
- ** — GROUNDWATER ELEVATIONS NOT INCLUDED IN CONTOURING

NOTES:
1. EXTRACTION WELLS HAD NOT BEEN PUMPING FOR AT LEAST 24 HOURS PRIOR TO WATER LEVEL MEASUREMENTS.
2. WATER LEVELS AT EXTERIOR WELLS WERE NOT USED FOR CONTOURING.
3. VERTICAL DATUM IS NAVD88 (FEET).

N

0 80
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

JUNE 2020 LOWER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 12

02/25/2021

PLOT TIME: 2/25/2021 1:11 PM MOD TIME: 2/25/2021 9:38 AM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-02\2021-02 Container Props Rhone-Poulenc GW Elevs 12 2020 06 Lower Zone.dwg

NORTHWEST GROUP
MW-39 L 5.75
MW-48 L 2.83
MW-38R U
MW-47 U
DM-3A U
DM-3B D
MW-59 U
A2 U
NORTH GROUP
MW-58 U 2.6
B1B D
B1A U
PZ-61 U
PZ-62 L 2.57
EX-1 U
KING COUNTY LEASE PROPERTY
EX-2 U
DM-4 U
MUSEUM OF FLIGHT PROPERTY
DM-5 U
MW-57 U
ORDINARY HIGH WATER LINE (9.49'-NAVD88)
INTERNAL GROUPS
EX-3 U
MW-20 U
PZ-60 L 2.64
MW-64
MW-66
2.8
3.0
WEST GROUP
MW-49 U
MW-42 L 4.86
MW-50 L 3.12
DM-8 U
MW-17 U
PZ-63 L 2.58
MW-27 U
MW-28 U
MW-56 L 3.20
MW-55 U
MW-45 L 5.69
MW-46 U
SOUTHEAST GROUP
DUWAMISH WATERWAY
MW-29 U
MW-53 U
MW-54 L 2.85
MW-43 L 4.53
MW-44 U
SLIP 6
MW-51 U
MW-41 U
MW-52 L 3.32
MW-40 L 7.03
SOUTHWEST GROUP
SOUTH GROUP

LEGEND

- U — UPPER ZONE MONITORING POINT
- L — LOWER ZONE MONITORING POINT
- D — DEEP AQUIFER MONITORING POINT
- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- PERFORMANCE MONITORING WELL, WATER LEVEL MONITORING
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- X — FENCE
- 2.64 — GROUNDWATER ELEVATION (FEET)
- 3.0 — GROUNDWATER ELEVATION CONTOURS (0.2 FOOT INTERVAL) (DASHED WHERE INFERRED)
- ** — GROUNDWATER ELEVATIONS NOT INCLUDED IN CONTOURING

NOTES:
1. EXTRACTION WELLS WERE OPERATING DURING WATER LEVEL MEASUREMENTS.
2. WATER LEVELS AT EXTERIOR WELLS WERE NOT USED FOR CONTOURING.
3. VERTICAL DATUM IS NAVD88 (FEET).

N

0 80
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

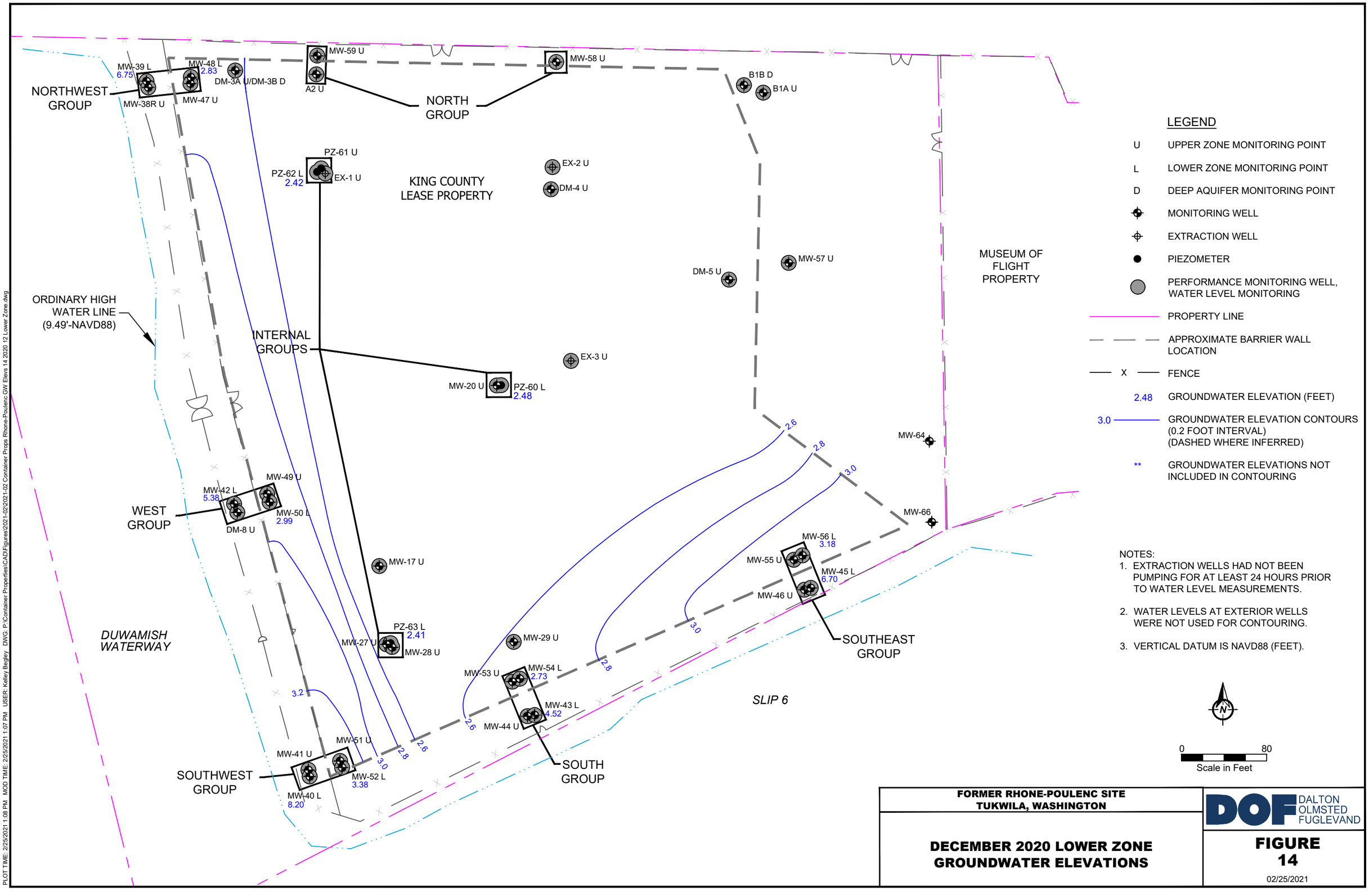
SEPTEMBER 2020 LOWER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 13

02/25/2021

PLOT TIME: 2/25/2021 1:13 PM MOD TIME: 2/25/2021 9:54 AM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-02\2021-02 Container Propa Rhone-Poulenc GW Elevs 13 2020 09 Lower Zone.dwg



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FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

DECEMBER 2020 LOWER ZONE GROUNDWATER ELEVATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 14

02/25/2021

N

NORTHWEST GROUP

MW-39 L
MW-48 L
MW-38R U
MW-47 U
DM-3A U/DM-3B D

MW-59 U
A2 U

NORTH GROUP

MW-58 U

B1B D
B1A U

PZ-61 U
PZ-62 L
EX-1 U

KING COUNTY LEASE PROPERTY

EX-2 U
DM-4 U

VIEW OF CROSS SECTION ON FIGURE 16 IS LOOKING FROM IAAI LEASE PROPERTY

ORDINARY HIGH WATER LINE (9.49'-NAVD88)

INTERNAL GROUPS

EX-3 U
MW-20 U
PZ-60 L

DM-5 U
MW-57 U

MUSEUM OF FLIGHT PROPERTY

MW-64
MW-66

MW-49 U
MW-42 L
MW-50 L
DM-8 U

WEST GROUP

MW-17 U

PZ-63 L
MW-27 U
MW-28 U

MW-29 U
MW-53 U
MW-54 L
MW-43 L
MW-44 U

SOUTH GROUP

MW-56 L
E
MW-55 U
MW-45 L
MW-46 U

SOUTHEAST GROUP

DUWAMISH WATERWAY

SLIP 6

MW-51 U
MW-41 U
W
S
MW-52 L
MW-40 L

SOUTHWEST GROUP

LEGEND

U	UPPER ZONE MONITORING POINT
L	LOWER ZONE MONITORING POINT
D	DEEP AQUIFER MONITORING POINT
	MONITORING WELL
	EXTRACTION WELL
	PIEZOMETER
	PERFORMANCE MONITORING WELL, WATER LEVEL MONITORING
	PROPERTY LINE
	APPROXIMATE BARRIER WALL LOCATION
X	FENCE
W — E	CROSS SECTION LOCATION

N

0 80
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

CROSS SECTION LOCATIONS

DALTON OLMSTED FUGLEVAND

FIGURE 15

02/12/2021

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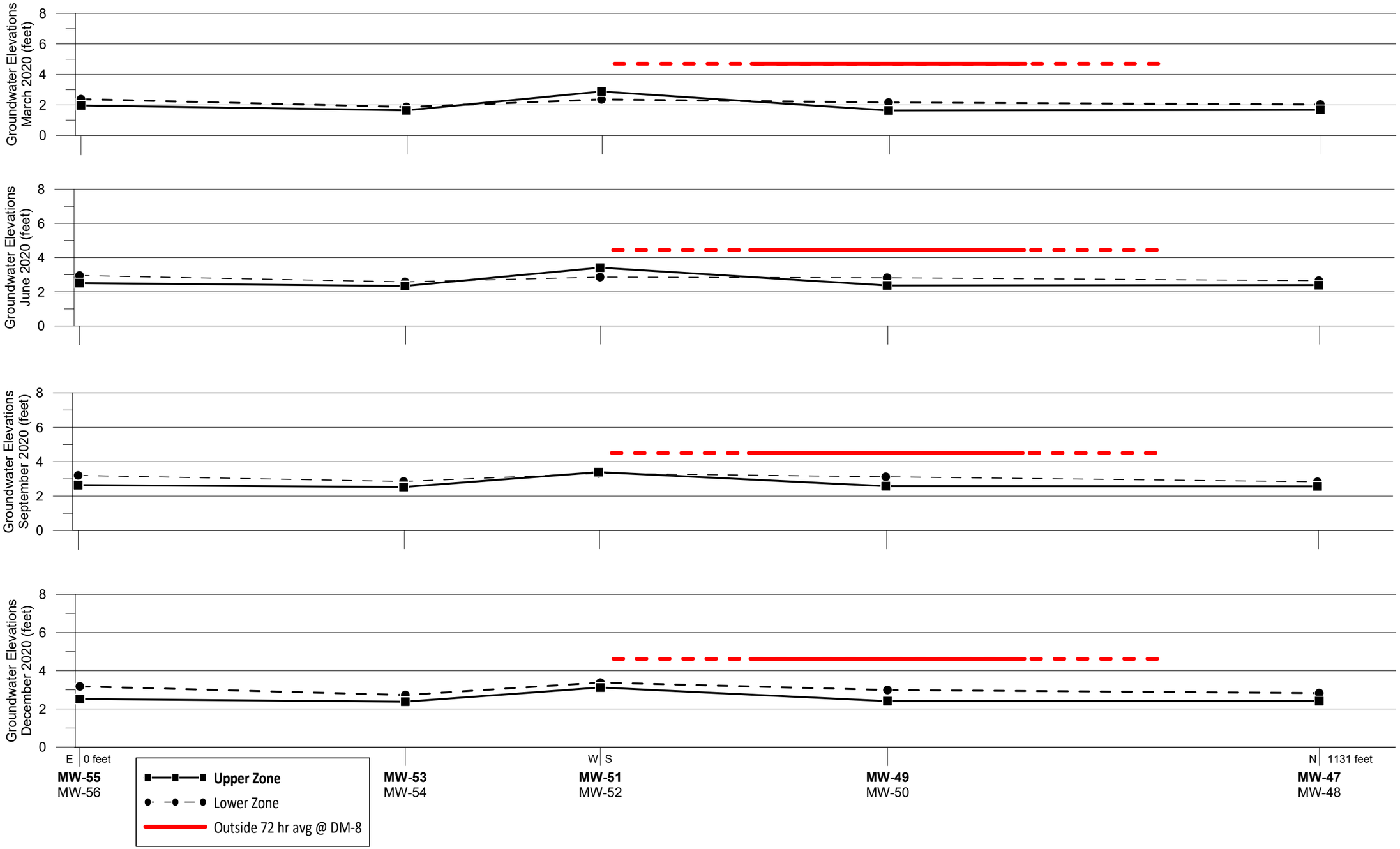
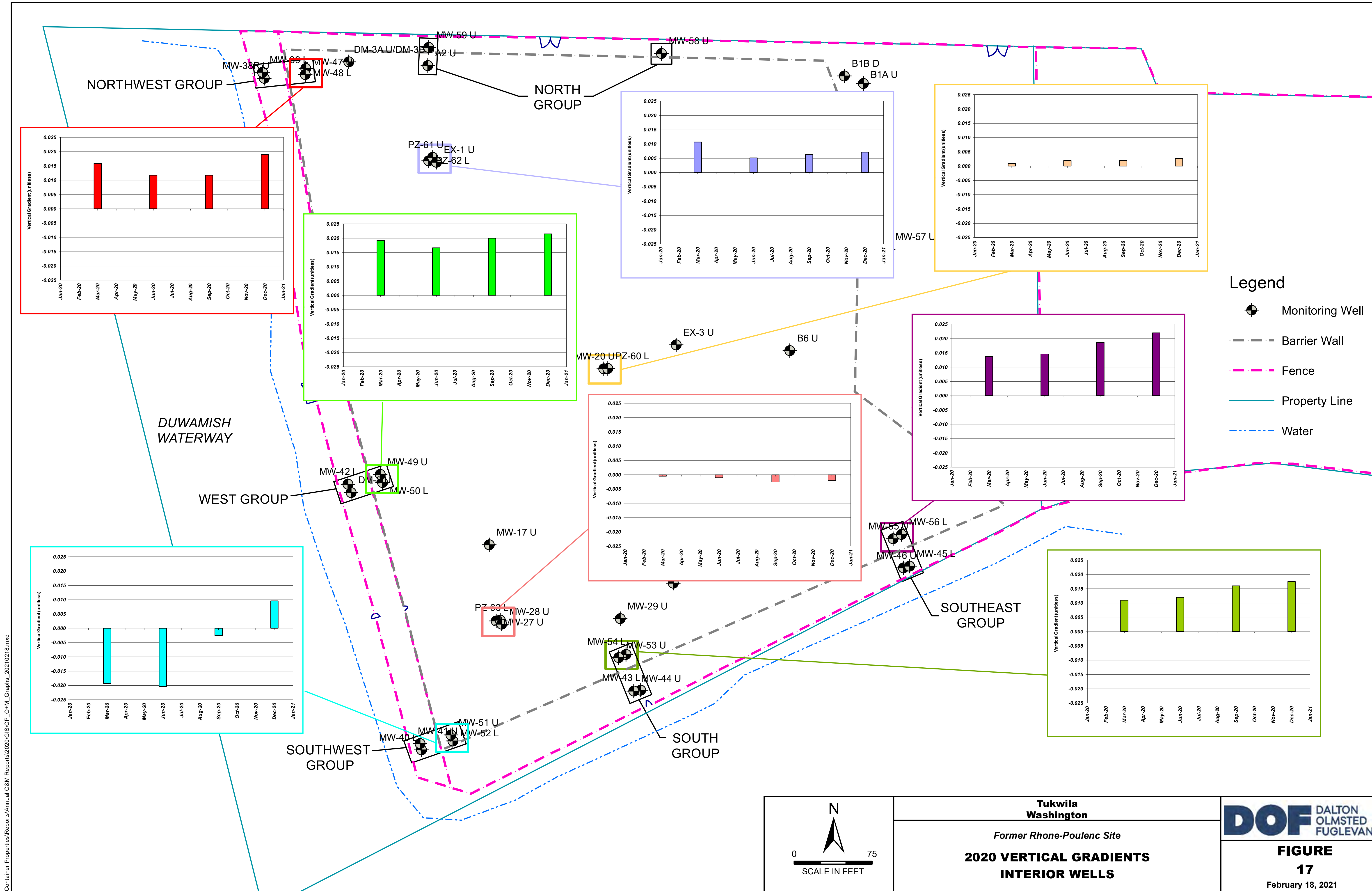


Notes:
1. Vertical Datum is NAVD88 (feet).

P:\Container Properties\Grapher Files\O&M Figure 17

PROJECT NO. CON-001	Former Rhone-Poulenc Site Tukwila, Washington GROUNDWATER ELEVATION CROSS SECTIONS ALONG SLIP 6 & THE DUWAMISH WATERWAY - Interior Wells, 2020	DOF DALTON OLMSTED FUGLEVAND FIGURE - **16**



Tukwila
Washington

Former Rhone-Poulenc Site

2020 VERTICAL GRADIENTS
INTERIOR WELLS

DOF DALTON OLMSTED FUGLEVAND

FIGURE
17

February 18, 2021

MW-39	
Toluene	0.20 U
Copper	6.72 J+
Arsenic	1.85
pH	7.46

MW-38R	
Toluene	0.20 U
Copper	2.09 J+
Arsenic	2.21
pH	6.70

B1A	
Toluene	0.20 U
Copper	1.00 U
Arsenic	0.802
pH	6.74

EX-3	
Toluene	0.20 U
Copper	**21.5**
Arsenic	3.93
pH	6.71

MW-42	
Toluene	0.20 U
Copper	**8.51**
Arsenic	1.99
pH	7.70

DM-8	
Toluene	0.20 U
Copper	1.00 U
Arsenic	0.808
pH	6.71

MW-41	
Toluene	0.20 U
Copper	**19.1**
Arsenic	2.22
pH	10.02

MW-40	
Toluene	0.20 U
Copper	3.65 J+
Arsenic	0.650
pH	7.96

MW-44		FD
Toluene	291	304
Copper	**63.1**	**61.9**
Arsenic	**10.4**	**10.1**
pH	11.17	11.17

MW-43	
Toluene	168
Copper	**48.7**
Arsenic	**14.9**
pH	11.14

MW-46	
Toluene	0.20 U
Copper	1.00 U
Arsenic	0.400 U
pH	6.44

MW-45	
Toluene	0.25
Copper	**13.4 J+**
Arsenic	2.60
pH	7.46

Groundwater Pretreatment Building

KING COUNTY LEASE PROPERTY

MUSEUM OF FLIGHT PROPERTY

ORDINARY HIGH WATER LINE (9.49'-NAVD88)

DUWAMISH WATERWAY

SLIP 6

MW-39 L, MW-38R U, MW-48 L, MW-47 U, DM-3A U/DM-3B D, A2 U, MW-59 U, MW-58 U, B1B D, B1A U, PZ-61 U, PZ-62 L, EX-1 U, EX-2 U, DM-4 U, DM-5 U, MW-57 U, MW-22 U, MW-49 U, MW-42 L, MW-50 L, DM-8 U, EX-3 U, B6 U, MW-20 U, PZ-60 L, MW-12 U, H-10 U, MW-64, MW-66, MW-17 U, MW-56 L, MW-55 U, MW-45 L, MW-46 U, DM-7 U, PZ-63 L, MW-27 U, MW-28 U, MW-29 U, MW-53 U, MW-54 L, MW-43 L, MW-44 U, MW-51 U, MW-41 U, MW-52 L, MW-40 L

LEGEND

- U — UPPER ZONE MONITORING POINT
- L — LOWER ZONE MONITORING POINT
- D — DEEP AQUIFER MONITORING POINT
- MONITORING WELL
- EXTRACTION WELL
- PIEZOMETER
- PROPERTY LINE
- APPROXIMATE BARRIER WALL LOCATION
- X — FENCE

KEY

MW-46		WELL ID
Toluene	0.20 U	TOLUENE IN µg/L
Copper	1.00 U	TOTAL COPPER IN µg/L
Arsenic	0.400 U	TOTAL ARSENIC IN µg/L
pH	6.44	pH IN STANDARD UNITS

NOTES

"U" INDICATES ANALYTE NOT DETECTED ABOVE REPORTING LIMIT INDICATED.

"J+" INDICATES VALUE IS ESTIMATED; RESULT IS BIASED HIGH.

FIELD pH MEASUREMENTS PRESENTED.

µg/L = MICROGRAMS PER LITER

FD = FIELD DUPLICATE

BOLD INDICATES ANALYTE WAS ABOVE THE PRG.

NOTE:
1. FIGURE ORIGINALLY PRODUCED BY WOOD.

N

0 100
Scale in Feet

FORMER RHONE-POULENC SITE
TUKWILA, WASHINGTON

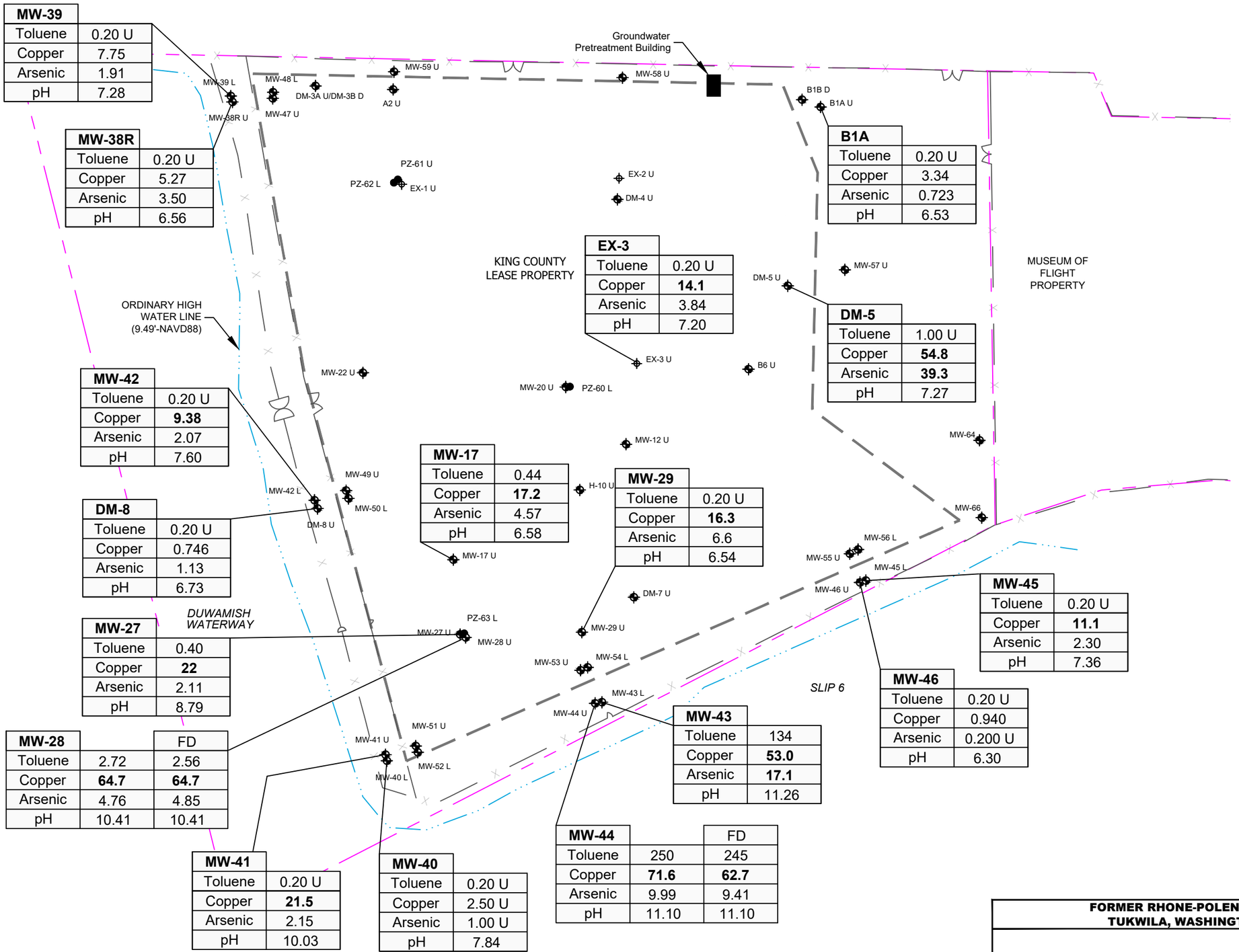
ROUND 87
GROUNDWATER MONITORING RESULTS
MARCH 2020

DALTON OLMSTED FUGLEVAND

FIGURE 18

02/18/2021

PLOT TIME: 2/19/2021 2:59 PM MOD TIME: 2/18/2021 2:59 PM USER: Kelley Begley DWG: P:\Container Properties\CAD\Figures\2021-02\2021-02 Container Props Rhone-Poulenc GW Monitor Results.dwg



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FORMER RHONE-POLENC SITE
TUKWILA, WASHINGTON

ROUND 89
GROUNDWATER MONITORING RESULTS
SEPTEMBER 2020

DALTON OLMSTED FUGLEVAND

FIGURE 19

02/18/2021

Tables

TABLE 1

HYDRAULIC CONTROL INTERIM MEASURE TIMELINE [1,2]

Former Rhone-Poulenc Site

Tukwila, Washington

Approximate	Description or Activity
January 2020	▪ The monthly site visit occurred on January 1, 2020. ▪ The Monthly Progress Report for December 2019 required under the Order was submitted on January 10. ▪ The quarterly Self-Monitoring Report required under Major Discharge Authorization No. 4167-03 was sent to King County on January 14. A copy of the report was also submitted to EPA.
February 2020	▪ The monthly site visit occurred on February 3, 2020. ▪ The Monthly Progress Report for January 2020 required under the Order was submitted on February 10.
March 2020	▪ The HCIM Annual Operations and Maintenance Report for 2019 was submitted to EPA on March 1. ▪ The monthly site visit occurred on March 4, 2020. ▪ Quarterly groundwater discharge samples were collected on March 4 in accordance with requirements of King County Major Discharge Authorization No. 4167-03. ▪ The Monthly Progress Report for February 2020 required under the Order was submitted on March 10. ▪ Quarterly groundwater level measurements and semiannual sampling for Round 87 were completed between March 18 to 20. ▪ The water levels recorded by the transducers in the four groundwater monitoring wells (MW-47, MW-51, MW-52, and MW-53) were downloaded on March 18 and 21. ▪ The transducer in MW-53 was transferred to MW-49 on March 18 following discovery of the MW-49 failed transducer (transducer failure occurred on March 5). ▪ A replacement control transducer was installed in MW-49 on March 21 and calibrated. The transducer temporarily installed in MW-49 was downloaded and then returned to MW-53. ▪ Re-calibration of the control transducer was performed on March 23. ▪ Autodialer telecommunication line determined to be malfunctioning on March 26.
April 2020	▪ The monthly site visit occurred on April 1, 2020. ▪ The Monthly Progress Report for March 2020 required under the Order was submitted on April 9. ▪ The quarterly Self-Monitoring Report required under Major Discharge Authorization No. 4167-03 was sent to King County on April 9. A copy of the report was also submitted to EPA.
May 2020	▪ The monthly site visit occurred on May 1, 2020. ▪ The Monthly Progress Report for April 2020 required under the Order was submitted on May 8. ▪ The Round 87 Performance Monitoring Report was submitted to EPA on May 29.

TABLE 1

HYDRAULIC CONTROL INTERIM MEASURE TIMELINE [1,2]

Former Rhone-Poulenc Site

Tukwila, Washington

June 2020	▪ The monthly site visit occurred on June 2, 2020. ▪ Quarterly groundwater discharge samples were collected on June 2 in accordance with requirements of King County Major Discharge Authorization No. 4167-03. ▪ The quarterly groundwater sample from EX-3 was collected on June 2. ▪ The Monthly Progress Report for May 2020 required under the Order was submitted on June 10. ▪ Wood transitioned operational files and field book to DOF on June 15. ▪ The water levels recorded by the transducers in the four groundwater monitoring wells (MW-47, MW-51, MW-52, and MW-53) were downloaded on June 30. ▪ Quarterly groundwater level measurements were completed on June 30.
July 2020	▪ The monthly site visit occurred on July 1, 2020. ▪ The autodialer phone line was repaired on July 1. ▪ Areas of deteriorated asphalt were repaired on July 1. ▪ The Monthly Progress Report for June 2020 required under the Order was submitted on July 10. ▪ The quarterly Self-Monitoring Report required under Major Discharge Authorization No. 4167-03 was sent to King County on July 10. A copy of the report was also submitted to EPA. ▪ Well monument for well A2 was replaced on July 30 due to damage observed on July 20.
August 2020	▪ The monthly site visit occurred on August 3, 2020. ▪ The Monthly Progress Report for July 2020 required under the Order was submitted on August 10. ▪ A request for variances to the Order was submitted to EPA on August 17 to change the frequency of progress reporting to quarterly from monthly and transition to electronic submittals for reports and field work notifications.
September 2020	▪ The monthly site visit occurred on September 1, 2020. ▪ Quarterly groundwater discharge samples were collected on September 1 in accordance with requirements of King County Major Discharge Authorization No. 4167-03. ▪ The Monthly Progress Report for August 2020 required under the Order was submitted on September 10. ▪ Quarterly groundwater level measurements and semiannual sampling for Round 89 were completed between September 21 to 22. ▪ The water levels recorded by the transducers in the four groundwater monitoring wells (MW-47, MW-51, MW-52, and MW-53) were downloaded on September 21. ▪ Annual specific capacity testing was performed the week of September 21. ▪ A communication interruption between the PLC and MW-49 transducer occurred on September 22. ▪ The variance to the Order request is approved by the EPA on September 25.

TABLE 1

HYDRAULIC CONTROL INTERIM MEASURE TIMELINE [1,2]

Former Rhone-Poulenc Site

Tukwila, Washington

October 2020	▪ The monthly site visit occurred on October 1, 2020. ▪ The communication interruption between the PLC and the MW-49 transducer was repaired on October 5. ▪ The Quarterly Progress Report for third quarter 2020 required under the Order was submitted on October 10. ▪ The quarterly Self-Monitoring Report required under Major Discharge Authorization No. 4167-03 was sent to King County on October 12. A copy of the report was also submitted to EPA.
November 2020	▪ The monthly site visit occurred on November 2, 2020. ▪ A planned power interruption for 6-hours occurred on November 3. ▪ The PLC did not record data during October and was identified on November 2. Flow totals for the month of October were reported from direct readings of the flow meters. The issue was identified as an improperly installed storage card on November 3.
December 2020	▪ The monthly site visit occurred on December 1, 2020. ▪ Quarterly groundwater discharge samples were collected on December 1 in accordance with requirements of King County Major Discharge Authorization No. 4167-03. ▪ The quarterly groundwater sample from EX-3 was collected on December 1. ▪ The water levels recorded by the transducers in the four groundwater monitoring wells (MW-47, MW-51, MW-52, and MW-53) were downloaded on December 11. ▪ Quarterly groundwater level measurements were completed on December 11. ▪ The Round 89 Performance Monitoring Report was submitted to EPA on December 31.

Notes

1. This timeline was compiled based on the Monthly and Quarterly Progress Reports submitted to EPA, then verified with documentation provided by Wood and maintained in DOF's files.
2. Maintenance resolution forms and notes provided to DOF by Wood for the period from January 2020 to June 2020.

Abbreviations

EPA = US Environmental Protection Agency
HCIM = hydraulic control interim control
Order = Administrative Order on Consent No. 1091-11-20-3008(h)
Wood = Wood Environment & Infrastructure Solutions, Inc.
DOF = Dalton, Olmsted, & Fuglevand, Inc.

TABLE 2

HCIM OPERATIONAL PROBLEM RESOLUTION [1]

Former Rhone-Poulenc Site

Tukwila, Washington

Date Encountered	Operational Issue Encountered	Operational Issue Resolution	Date Resolved
March 18, 2020	MW-49 System Control Transducer Failure	On March 18, 2020 Wood observed all three extraction wells in operation, atypical of standard operational conditions. Further inspection identified that the transducer in MW-49 had failed. The system was turned off until the transducer could be replaced on March 23, 2020. Following replacement the system was restarted and continued operation under automatic control. During this period, the differential water level was maintained at greater than 1-foot.	March 23, 2020
March 26, 2020	Autodialer Callout Line Interrupted	During the transducer failure discussed above, Wood observed the treatment system discharge exceeded the alarm limit, but a call was not received. Further investigation of the issue identified a break in the telecommunication line used to call out. The telecommunication company was able to troubleshoot the issue and repaired the line. The autodialer was tested and confirmed successful callout.	July 1, 2020
July 20, 2020	Site Security	On July 20, 2020 the entrance gates to the property were observed to be open without a way to secure the entrance. Current tenant operations include vehicle parking with shuttle bus service on 5-minute intervals, 24 hours per day, 365 days per year. The issue was resolved by installing gates at the entrance, so in the event of the site being unoccupied, the site can be secured.	August 1, 2020
July 20, 2020	Well A2 Monument Damaged	On July 20, 2020 the well was observed to be missing the lid and upper ring of the monument. A steel plate was placed over the monument under Cascade Drilling, LP could replace the monument. The old monument was removed and replaced on July 30, 2020.	July 30, 2020
October 1, 2020	MW-49 Communication Interruption	During the October 1, 2020 monthly site visit the data obtained from the PLC and data recorder (DR) indicated a communication error, as the value for MW-49 was reporting the low-end range value. Further investigation determined the communication wire had been accidentally disconnected during a desiccant change out on September 22, 2020. The wire was reconnected on October 5, 2020 and calibration of the transducer was confirmed. During this period, the differential water level was maintained at greater than 1-foot.	October 5, 2020

DOF DALTON OLMSTED FUGLEVAND

TABLE 2

HCIM OPERATIONAL PROBLEM RESOLUTION [1]

Former Rhone-Poulenc Site

Tukwila, Washington

November 2, 2020	PLC Data did not Download to Storage Card	During the November 2, 2020 monthly inspection the PLC storage card was blank. Upon further investigation on November 3, 2020 it was determined the storage card had been improperly installed on October 1, 2020. The installation of the card was corrected and confirmation the PLC was recording data was confirmed. During this period, flow totals were reported from the direct readings on the flow meters and the remainder of the site data was obtained from the DR. Procedures were updated following the issue to prevent improper installation of the storage card in the future.	November 3, 2020
December 1, 2020	High Influent System Pressure at (PI-1)	During the December monthly site visit the influent pressure to the system was observed as being elevated. Further investigation determined the bag filters were fouled. The bag filters were replaced the same day and pressure decreased.	December 1, 2020

Notes

1. Maintenance resolution forms and notes provided to DOF by Wood for the period from January 2020 to June 2020.

Abbreviations

Wood = Wood Environment & Infrastructure Solutions, Inc.

PLC = programmable logic controller

DR = data recorder

DOF DALTON OLMSTED FUGLEVAND

TABLE 3

QUARTERLY PRETREATMENT SYSTEM ANALYTICAL SUMMARY [1, 2, 3]

Former Rhone-Poulenc Site

Tukwila, Washington

Month-Year	Sample Day	Sample Type	Which Extraction Well Pumping?	24-Hour Flow Volume (gallons)	Effluent Sample					Between GAC Units Sample					Influent Sample				
					pH	Benzene	Toluene	Ethylbenzene	HEM O&G	pH	Benzene	Toluene	Ethylbenzene	HEM O&G	pH	Benzene	Toluene	Ethylbenzene	HEM O&G
					(pH units)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(pH units)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(pH units)	(µg/L)	(µg/L)	(µg/L)	(mg/L)
Mar-20	1	Grab	all three	17,000	6.46	0.20 U	0.20 U	0.20 U	5.0 U	6.47	0.20U	0.20 U	0.20 U	5.0 U	6.57	0.20 U	0.20 U	0.20 U	5.0 U
Jun-20	1	Grab	all three	18,200	6.52	0.20 U	0.20 U	0.20 U	5.0 U	6.53	0.20 U	0.20 U	0.20 U	5.0 U	6.38	0.20 U	0.20 U	0.20 U	5.0 U
Sep-20	1	Grab	all three	1,700	6.33	0.20 U	0.20 U	0.20 U	5.0 U	6.31	0.20 U	0.20 U	0.20 U	5.0 U	6.29	0.20 U	0.20 U	0.20 U	5.0 U
Dec-20	1	Grab	all three	3,300	6.47	0.20 U	0.20 U	0.20 U	5.0 U	6.46	0.20 U	0.20 U	0.20 U	5.0 U	6.46	0.20 U	0.20 U	0.20 U	5.0 U
KCDNRP Discharge Limits[4]				**24,000**	**5.0–12.0**	**70**	**1,400**	**1,700**	**100**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes

1. Data qualifiers are as follows:
   U = Not detected at reporting limit indicated.
2. All results are below KCDNRP discharge limits.
3. Historical data provided by previous consultant, Wood.
4. Current KCDNRP discharge limits; historic limits have varied.

Abbreviations

µg/L = micrograms per liter
GAC = granular activated carbon
HEM O&G = n-Hexane-extractable material, oil and grease
KCDNRP = King County Department of Natural Resources and Parks
mg/L = milligrams per liter
NA = not applicable; KCDNRP discharge limits apply only to the effluent

DOF DALTON OLMSTED FUGLEVAND

TABLE 4

MONTHLY GROUNDWATER DISCHARGE, 2020 [1]

Former Rhone-Poulenc Site

Tukwila, Washington

Month	Monthly Discharge Volume (gallons)[2]	Average Flow Rate (gallons per minute)[3]
January	100	0.0
February	363,000	8.7
March	466,800	10.5
April	49,600	1.1
May	136,800	3.1
June	168,000	3.9
July	176,200	3.9
August	219,400	4.9
September	120,100	2.8
October	265,600	5.9
November	39,600	0.9
December	93,500	2.1
Totals	**2,098,700**	**4.0**

Notes

1. Historical data provided by previous consultant, Wood.
2. Monthly Discharge volume was based on the amounts reported monthly to King County.
3. Flow rates were calculated by dividing the amount of water discharged during the time frame by the number of minutes in that time frame. Actual instanteous flow rates are higher.

DOF DALTON OLMSTED FUGLEVAND

TABLE 5

GROUNDWATER ELEVATIONS, 2020 [1]

Former Rhone-Poulenc Site

Tukwila, Washington

Well ID	Inside/Outside Barrier Wall	TOC Elevation[1]	Depth to Water (feet) [1,2]				Groundwater Elevation (feet) [1,2]			
			3/19/20	6/30/20	9/21/20	12/11/20	3/19/20	6/30/20	9/21/20	12/11/20
B1A	Outside	18.71	9.18	9.01	9.68	10.54	9.53	9.70	9.03	8.17
B1B	Outside	18.47	7.74	8.40	8.92	8.00	10.73	10.07	9.55	10.47
A2	Inside	18.59	16.92	16.21	16.08	16.22	1.67	2.38	2.51	2.37
DM-3A	Inside	17.81	15.79	15.11	15.09	15.30	2.02	2.70	2.72	2.51
DM-3B	Inside	17.81	7.36	7.58	7.53	6.69	10.45	10.23	10.28	11.12
DM-4	Inside	19.40	17.70	17.01	16.82	17.00	1.70	2.39	2.58	2.40
DM-5	Inside	18.80	16.87	16.10	16.00	16.24	1.93	2.70	2.80	2.56
DM-8	Outside	20.40	14.69	14.87	14.02	12.97	5.71	5.53	6.38	7.43
EX-1	Inside	19.16	17.43	16.70	16.58	16.72	1.73	2.46	2.58	2.44
EX-2	Inside	19.21	17.41	16.70	16.43	16.71	1.80	2.51	2.78	2.50
EX-3	Inside	18.92	17.10	16.43	16.27	16.42	1.82	2.49	2.65	2.50
MW-17	Inside	18.55	17.01	16.09	16.09	16.26	1.54	2.46	2.46	2.29
MW-20	Inside	18.96	17.26	16.59	16.40	16.59	1.70	2.37	2.56	2.37
MW-27	Inside	18.83	NM	NM	NM	NM	NM	NM	NM	NM
MW-28	Inside	18.74	17.07	16.38	16.11	16.29	1.67	2.36	2.63	2.45
MW-29	Inside	18.37	16.85	16.16	15.94	16.13	1.52	2.21	2.43	2.24
MW-38R	Outside	16.83	10.77	11.08	10.68	9.81	6.06	5.75	6.15	7.02
MW-39	Outside	16.65	10.76	11.15	10.90	9.90	5.89	5.50	5.75	6.75
MW-40	Outside	20.05	13.86	14.23	13.02	11.85	6.19	5.82	7.03	8.20
MW-41	Outside	19.74	13.54	13.87	12.55	11.40	6.20	5.87	7.19	8.34
MW-42	Outside	19.78	14.67	15.23	14.92	14.40	5.11	4.55	4.86	5.38
MW-43	Outside	17.92	12.64	13.91	13.39	13.40	5.28	4.01	4.53	4.52
MW-44	Outside	17.89	11.72	12.53	11.16	9.75	6.17	5.36	6.73	8.14
MW-45	Outside	17.65	11.71	12.58	11.96	10.95	5.94	5.07	5.69	6.70
MW-46	Outside	17.78	11.34	11.54	9.57	8.73	6.44	6.24	8.21	9.05
MW-47	Inside	18.20	16.52	15.81	15.63	15.79	1.68	2.39	2.57	2.41
MW-48	Inside	18.08	16.05	15.43	15.25	15.25	2.03	2.65	2.83	2.83
MW-49	Inside	18.49	16.85	16.12	15.91	16.08	1.64	2.37	2.58	2.41
MW-50	Inside	19.05	16.89	16.23	15.93	16.06	2.16	2.82	3.12	2.99
MW-51	Inside	18.15	15.27	14.74	14.76	15.03	2.88	3.41	3.39	3.12
MW-52	Inside	18.00	15.64	15.14	14.68	14.62	2.36	2.86	3.32	3.38
MW-53	Inside	18.00	16.35	15.66	15.47	15.62	1.65	2.34	2.53	2.38
MW-54	Inside	17.76	15.89	15.18	14.91	15.03	1.87	2.58	2.85	2.73
MW-55	Inside	18.07	16.10	15.56	15.43	15.55	1.97	2.51	2.64	2.52
MW-56	Inside	18.18	15.80	15.23	14.98	15.00	2.38	2.95	3.20	3.18
MW-57	Outside	19.33	13.13	13.15	13.80	13.50	6.20	6.18	5.53	5.83
MW-58	Outside	18.70	12.69	13.16	13.67	13.02	6.01	5.54	5.03	5.68
MW-59	Outside	18.51	12.57	13.10	13.43	12.71	5.94	5.41	5.08	5.80
PZ-60	Inside	18.98	17.24	16.53	16.34	16.50	1.74	2.45	2.64	2.48
PZ-61	Inside	19.04	17.51	16.81	16.63	16.80	1.53	2.23	2.41	2.24
PZ-62	Inside	18.80	17.00	16.44	16.23	16.38	1.80	2.36	2.57	2.42
PZ-63	Inside	18.51	16.85	16.17	15.93	16.10	1.66	2.34	2.58	2.41

Notes

1. Elevations in feet above mean sea level relative to North American Vertical Datum of

2. Historical data provided by previous consultant, Wood.

Abbreviations

NM = not measured

TOC = top of casing

Wood = Wood Environment & Infrastructure Solutions, Inc.

DOF DALTON OLMSTED FUGLEVAND

TABLE 6

MONITORING WELL VERTICAL GRADIENTS, 2020 [1]

Former Rhone-Poulenc Site

Tukwila, Washington

Well ID	MW-47	MW-48		MW-49	MW-50		MW-51	MW-52		MW-53	MW-54		MW-55	MW-56		PZ-61	PZ-62		MW-20	PZ-60		MW-28	PZ-63	
Vertical Distance Between Screen Midpoints (feet)	22			27			27			20			30			25			41			20		
	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]	Groundwater Elevation		Verical Gradient [2]
Date	(feet)			(feet)			(feet)			(feet)			(feet)			(feet)			(feet)			(feet)		
3/19/2020	1.68	2.03	0.016	1.64	2.16	0.019	2.88	2.36	-0.019	1.65	1.87	0.011	1.97	2.38	0.014	1.53	1.8	0.011	1.7	1.74	0.001	1.67	1.66	0.000
6/30/2020	2.39	2.65	0.012	2.37	2.82	0.017	3.41	2.86	-0.020	2.34	2.58	0.012	2.51	2.95	0.015	2.23	2.36	0.005	2.37	2.45	0.002	2.36	2.34	-0.001
9/21/2020	2.57	2.83	0.012	2.58	3.12	0.020	3.39	3.32	-0.003	2.53	2.85	0.016	2.64	3.2	0.019	2.41	2.57	0.006	2.56	2.64	0.002	2.63	2.58	-0.002
12/11/2020	2.41	2.83	0.019	2.41	2.99	0.021	3.12	3.38	0.010	2.38	2.73	0.018	2.52	3.18	0.022	2.24	2.42	0.007	2.37	2.48	0.003	2.45	2.41	-0.002
Average Gradient			**0.015**			**0.019**			**-0.008**			**0.014**			**0.017**			**0.007**			**0.002**			**-0.001**

Notes

1. Historical data provided by previous consultant, Wood.
2. For information on methods used to calculate vertical gradients refer to http:/www3.epa.gov/ceampubl/learn2model/part-two/onsite/vgradient02.html. Downward hydraulic gradients are assigned a negative value.

DOF DALTON OLMSTED FUGLEVAND

TABLE 7

GENERAL PARAMETER MEASUREMENTS [1]

Former Rhone-Poulenc Site

Tukwila, Washington

Well	Date	Temperature (degrees C)	pH (units)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation/ Reduction Potential (mV)	Turbidity (NTU)
B1A	3/18/2020	14.3	6.74	1,164	-0.50	-188.1	3.2
	9/22/2020	18.8	6.53	1,250	0.36	-42	4.5
DM-5	9/22/2020	16.2	7.27	2,050	0.29	-126.2	0.43
DM-8	3/18/2020	13.0	6.71	3,009	0.04	-111.2	5.1
	9/22/2020	13.4	6.73	2,030	0.4	-30.6	4.72
EX-3	3/18/2020	15.0	6.71	1,392	-0.07	-178.4	4.7
	6/02/2020	NA	NA	NA	NA	NA	NA
	9/21/2020	16	7.2	1,380	0.4	-74	0
	12/1/2020	15.3	7.27	1,295	0.96	-109.6	63
MW-17	9/21/2020	18.7	6.58	1,700	0.21	-102.4	8.11
MW-27	9/21/2020	23.1	8.79	8,380	0.74	-103.5	0.81
MW-28	9/22/2020	17.1	10.41	3,940	0.28	-132.5	0
MW-29	9/22/2020	18.1	6.54	1,380	0.38	-105.1	1.07
MW-38R	3/19/2020	14.9	6.70	799	0.58	-135.8	4.2
	9/21/2020	15.3	6.56	850	0.25	-90.6	1.34
MW-39	3/19/2020	14.3	7.46	2,689	0.05	-174.3	120.5
	9/21/2020	15	7.28	2,300	0.23	-143.1	25
MW-40	3/18/2020	12.5	7.96	12,333	0.00	-333.7	10.3
	9/21/2020	13.4	7.84	13,400	0.33	-178.8	1.9
MW-41	3/18/2020	12.9	10.02	6,968	-0.06	-394.4	10.9
	9/21/2020	14.9	10.03	7,130	0.2	-249.4	4.18
MW-42	3/18/2020	13.0	7.70	2,926	-0.05	-225.9	615
	9/22/2020	13.8	7.6	3,030	0.26	-152.7	13.9
MW-43	3/19/2020	12.3	11.14	6,535	-0.07	-482.0	13.5
	9/22/2020	15	11.26	7,800	0.73	-124.2	18.4
MW-44	3/19/2020	13.4	11.17	7,752	-0.05	-469.0	4.8
	9/22/2020	14.6	11.1	7,720	0.31	-200	0
MW-45	3/19/2020	12.7	7.46	2,104	-0.03	-234.5	172.0
	9/22/2020	14.2	7.36	2,190	0.4	-103.3	22
MW-46	3/20/2020	13.3	6.44	6,112	0.15	-66.4	2.8
	9/22/2020	14.1	6.3	5,010	0.3	1.4	0.43

Notes

1. Historical data provided by previous consultant, Wood.

Abbreviations

µS/cm = microsiemens per centimeter

C = Celsius

mg/L = milligrams per liter

mV = millivolts

NTU = nephelometric turbidity units

NA = Not Available

DOF DALTON OLMSTED FUGLEVAND

TABLE 8

PERFORMANCE MONITORING GROUNDWATER ANALYTICAL RESULTS, 2020 [1,2,3]

Former Rhone-Poulenc Site

Tukwila, Washington

Sample Location	Inside/ Outside Barrier Wall	Aquifer or Zone	Date	Aluminum (µg/L)	Arsenic (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Copper (µg/L)	Lead (µg/L)	Mercury (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Vanadium (µg/L)
B1A	Outside	Upper Zone	3/18/2020	40.0 U	0.802	0.20 U	1.0 U	1.0 U	0.20 U	0.20 U	1.00 U	1.00 U	2.07 J+
			9/22/2020	**109**	0.723	0.10 U	0.877	3.34	0.292	0.010 U	**10.50**	0.50 U	3.09
DM-5	Inside	Upper Zone	9/22/2020	**4460**	**39.3**	0.20 U	**158**	**54.8**	**6.05**	**0.087**	7.69	**6.60**	**694**
DM-8	Outside	Upper Zone	3/18/2020	40.0 U	0.808	0.20 U	1.0 U	1.0 U	0.20 U	0.20 U	1.61	1.00 U	3.78
			9/22/2020	41.4	1.13	0.10 U	1.09	0.746	0.160	0.010 U	5.21	0.50 U	8.3
EX-3	Inside	Upper Zone	3/18/2020	**494 J+**	3.93	0.50 U	24.6	**21.5**	1.77	**0.017 J**	2.50 U	2.50 U	**142**
			6/2/2020	**484**	3.95	0.20 U	26.2	**18.9**	1.34	**0.022**	1.63	2.16	**145**
			9/21/2020	**385**	3.84	0.50 U	21.5	**14.1**	1.10	0.010 U	2.50 U	2.50 U	**119**
			12/1/2020	**347**	4.1	0.10 U	18.3	**14.4**	1.20	0.010 U	1.51	1.11	**105**
MW-17	Inside	Upper Zone	9/21/2020	**294**	4.57	0.20 U	18.1	**17.2**	1.32	**0.017 J**	1.25	1.60	**106**
MW-27	Inside	Upper Zone	9/21/2020	**115**	2.11	0.50 U	2.64	**22**	**2.5**	0.010 U	6.46	2.50 U	6.29
MW-28	Inside	Upper Zone	9/22/2020	**809**	4.76	0.20 U	**114**	**64.7**	**6.47**	**0.023**	7.31	2.54	**240**
MW-28 DUP	Inside	Upper Zone	9/22/2020	**776**	4.85	0.20 U	**114**	**64.7**	**6.39**	**0.019 J**	7.15	2.21	**233**
MW-29	Inside	Upper Zone	9/22/2020	82.2	6.6	0.10 U	1.21	**16.3**	**2.87**	**0.011 J**	5.94	0.50 U	6.8
MW-38R	Outside	Upper Zone	3/19/2020	**169**	2.21	0.20 U	9.53	2.09 J+	0.20 U	0.20 U	1.00 U	1.00 U	52.4
			9/21/2020	**193**	3.5	0.20 U	11.1	5.27	0.234	**0.023**	1.00 U	1.00 U	59.7
MW-39	Outside	Lower Zone	3/19/2020	**458**	1.85	0.20 U	7.83	6.72 J+	0.470	0.20 U	1.33	1.00 U	32.0
			9/21/2020	**354**	1.91	0.20 U	10.9	7.75	0.400	0.010 U	1.59	1.17	38.3
MW-40	Outside	Lower Zone	3/18/2020	**144 J+**	0.650	0.20 U	3.27 J+	3.65 J+	0.37	0.20 U	1.07	1.10	10.2
			9/21/2020	**162**	1.0 U	0.50 U	5.76	2.50 U	0.50 U	0.010 U	2.50 U	2.50 U	10
MW-41	Outside	Upper Zone	3/18/2020	**273 J+**	2.22	0.50 U	15.5	**19.1**	1.77	**0.019 J**	2.52	2.50 U	**104**
			9/21/2020	**282**	2.15	0.50 U	20.5	**21.5**	2.00	**0.013 J**	3.19	2.50 U	**127**
MW-42	Outside	Lower Zone	3/18/2020	**488 J+**	1.99	0.20 U	9.39 J+	**8.51**	0.476	0.20 U	2.01	1.65 U	35.9
			9/22/2020	**818**	2.07	0.20 U	9.77	**9.38**	0.672	0.010 U	2.43	1.46	39.9
MW-43	Outside	Lower Zone	3/19/2020	1000 U	**14.9**	5.0 U	**212**	**48.7**	5.0 U	**0.083**	**41.2**	25.0 U	**978**
			9/22/2020	1000 U	**17.1**	1.00 U	**239**	**53**	**2.67**	**0.10**	**46.8**	**6.06**	**1160**
MW-44	Outside	Upper Zone	3/19/2020	200 U	**10.4**	1.00 U	62.9	**63.1**	**4.3**	**0.10**	**21.2**	5.00 U	**446**
			9/22/2020	**351**	**9.99**	0.50 U	65.6	**71.6**	**4.92**	**0.097**	**21.8**	3.04	**496**
MW-44 DUP	Outside	Upper Zone	3/19/2020	200 U	**10.1**	1.00 U	60.3	**61.9**	**4.21**	**0.096**	**20.3**	5.00 U	**433**
			9/22/2020	**202**	**9.41**	0.50 U	56.6	**62.7**	**4.54**	**0.089**	**20.7**	2.50	**428**
MW-45	Outside	Lower Zone	3/19/2020	**2290**	2.60	**0.562**	9.69	**13.4 J+**	1.96	**0.018 J**	3.01	1.44	38.7
			9/55/20	**1480**	2.30	**0.346**	9.09	**11.1**	1.46	**0.012 J**	3.00	1.48	40
MW-46	Outside	Upper Zone	3/20/2020	20 U	0.40 U	0.20 U	0.967 J+	1.0 U	0.2 U	0.020 U	1.00 U	1.00 U	7.72
			9/22/2020	23.1	0.20 U	0.10 U	1.1	0.94	0.10 U	0.010 U	0.50 U	0.50 U	7.48
Preliminary Remediation Goal				87	8.0	0.25	100	8.0	2.5	0.01	8.2	5.0	63

Notes

1. Data qualifiers are as follows:
   U = Not detected at reporting limit indicated.
   J = The result is estimated.
   J+ = The result is estimated, with a potential high bias.
2. Only compounds detected above their respective PRG are presented.
3. Historical data provided by previous consultant, Wood.

Abbreviations

µg/L = micrograms per liter

BOLD = concentration above PRG

PRG - preliminary remediation goal

DOF DALTON OLMSTED FUGLEVAND

Appendix - A

King County Department of Natural Resources and Parks
Influent and Effluent Groundwater Sample Analytical Results

January to December 2020

Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 March 2020

John Long
Wood (Seattle)
600 University St. Suite 600
Seattle, WA 98101

RE: FRP

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
20C0047	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

David T Bale

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 2006047	Turn-around Requested: STD	Page: 1 of 1	
ARI Client Company: Wood	Phone: 530-574-7812	Date: 3/4	Ice Present? Yes
Client Contact: Will Young		No. of Coolers: 1	Cooler Temps: 4.6°C
Client Project Name: FRP			
Client Project #: 0357690050, 90004	Samplers: WY + BL		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: HEM O&G	BTEX	pH						Notes/Comments
INF - 030420	3/4/20	1145	water	6	X	X	X						
BTW - 030420	3/4/20	1150	water	6	X	X	X						
EFF - 030420	3/4/20	1155	water	6	X	X	X						
~~EFF-B~~ EFF-030420-B	3/4/20	1200	water	1	X								
EFF-030420-C	3/4/20	1205	water	1	X								

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Brady Luberow	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Wood	Company: ARI	Company:	Company:
	Date & Time: 3/4/20 1325	Date & Time: 03/04/2020 1325	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Report

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INF-030420	20C0047-01	Water	04-Mar-2020 11:45	04-Mar-2020 13:25
BTW-030420	20C0047-02	Water	04-Mar-2020 11:50	04-Mar-2020 13:25
EFF-030420	20C0047-03	Water	04-Mar-2020 11:55	04-Mar-2020 13:25
EFF-030420-B	20C0047-04	Water	04-Mar-2020 12:00	04-Mar-2020 13:25
EFF-030420-C	20C0047-05	Water	04-Mar-2020 12:05	04-Mar-2020 13:25

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Work Order Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times with the exception of pH which was sent to the lab outside of the holding time.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 3/4/2020 2:32:57PM

WORK ORDER

20C0047

Client: Wood (Seattle) **Project Manager:** Kelly Bottem

Project: FRP **Project Number:** Former Rhone Poulenc Site 0087690050

Preservation Confirmation

Container ID	Container Type	pH	
20C0047-01 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20C0047-01 B	Small OJ, 500 mL		
20C0047-01 C	VOA Vial, Clear, 40 mL		
20C0047-01 D	VOA Vial, Clear, 40 mL		
20C0047-01 E	VOA Vial, Clear, 40 mL		
20C0047-01 F	VOA Vial, Clear, 40 mL		
20C0047-02 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20C0047-02 B	Small OJ, 500 mL		
20C0047-02 C	VOA Vial, Clear, 40 mL		
20C0047-02 D	VOA Vial, Clear, 40 mL		
20C0047-02 E	VOA Vial, Clear, 40 mL		
20C0047-02 F	VOA Vial, Clear, 40 mL		
20C0047-03 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20C0047-03 B	Small OJ, 500 mL		
20C0047-03 C	VOA Vial, Clear, 40 mL		
20C0047-03 D	VOA Vial, Clear, 40 mL		
20C0047-03 E	VOA Vial, Clear, 40 mL		
20C0047-03 F	VOA Vial, Clear, 40 mL		
20C0047-04 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20C0047-05 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass

KD
Preservation Confirmed By

3/4/2020
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Wood Project Name: FRP

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 20C0047 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1325 4.6C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00 2565

Cooler Accepted by: JSm Date: 03/04/2020 Time: 1325

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: KD Date: 3/4/2020 Time: 1430 Labels checked by: KD

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

-VOA Vials are unpreserved.

By: KD Date: 3/4/2020

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050	**Reported:**
Seattle WA, 98101	Project Manager: John Long		10-Mar-2020 12:27

INF-030420

20C0047-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/04/2020 11:45

Instrument: NT3 Analyst: PKC — Analyzed: 03/04/2020 17:56

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 20C0047-01 D

Preparation Batch: BIC0073 — Sample Size: 10 mL

Prepared: 03/04/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.7*	*%*	

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

INF-030420

20C0047-01 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 03/04/2020 11:45

Instrument: Bal2 Analyst: UW — Analyzed: 03/05/2020 10:42

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20C0047-01

Preparation Batch: BIC0080 — Sample Size: 1075 mL

Prepared: 03/05/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

INF-030420

20C0047-01 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 03/04/2020 11:45

Instrument: Accumet AB150 Analyst: JM — Analyzed: 03/04/2020 15:20

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20C0047-01 B

Preparation Batch: BIC0069 Sample Size: 50 mL

Prepared: 03/04/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	**6.56**	pH Units	H

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050	**Reported:**
Seattle WA, 98101	Project Manager: John Long		10-Mar-2020 12:27

BTW-030420

20C0047-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/04/2020 11:50

Instrument: NT3 Analyst: PKC — Analyzed: 03/04/2020 18:22

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 20C0047-02 C

Preparation Batch: BIC0073 — Sample Size: 10 mL

Prepared: 03/04/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.8*	*%*	

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

BTW-030420

20C0047-02 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 03/04/2020 11:50

Instrument: Bal2 Analyst: UW — Analyzed: 03/05/2020 10:42

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20C0047-02

Preparation Batch: BIC0080 — Sample Size: 1075 mL

Prepared: 03/05/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

BTW-030420

20C0047-02 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 03/04/2020 11:50

Instrument: Accumet AB150 Analyst: JM — Analyzed: 03/04/2020 15:20

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20C0047-02 B

Preparation Batch: BIC0069 Sample Size: 50 mL

Prepared: 03/04/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	**6.47**	pH Units	H

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050	**Reported:**
Seattle WA, 98101	Project Manager: John Long		10-Mar-2020 12:27

EFF-030420

20C0047-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 03/04/2020 11:55

Instrument: NT3 Analyst: PKC — Analyzed: 03/04/2020 18:48

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 20C0047-03 C

Preparation Batch: BIC0073 — Sample Size: 10 mL

Prepared: 03/04/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*98.5*	*%*	

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

EFF-030420

20C0047-03 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 03/04/2020 11:55

Instrument: Bal2 Analyst: UW — Analyzed: 03/05/2020 10:42

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20C0047-03

Preparation Batch: BIC0080 — Sample Size: 1080 mL

Prepared: 03/05/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

EFF-030420

20C0047-03 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 03/04/2020 11:55

Instrument: Accumet AB150 Analyst: JM — Analyzed: 03/04/2020 15:20

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20C0047-03 B

Preparation Batch: BIC0069 Sample Size: 50 mL

Prepared: 03/04/2020 Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	**6.46**	pH Units	H

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

EFF-030420-B

20C0047-04 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 03/04/2020 12:00

Instrument: Bal2 Analyst: UW — Analyzed: 03/05/2020 10:42

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20C0047-04

Preparation Batch: BIC0080 — Sample Size: 1080 mL

Prepared: 03/05/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

EFF-030420-C

20C0047-05 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 03/04/2020 12:05

Instrument: Bal2 Analyst: UW — Analyzed: 03/05/2020 10:42

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20C0047-05

Preparation Batch: BIC0080 — Sample Size: 1075 mL

Prepared: 03/05/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Volatile Organic Compounds - Quality Control

Batch BIC0073 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0073-BLK1)				Prepared: 04-Mar-2020 Analyzed: 04-Mar-2020 17:31						
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	5.07		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08		ug/L	*5.00*		*102*	*80-120*			
LCS (BIC0073-BS1)				Prepared: 04-Mar-2020 Analyzed: 04-Mar-2020 16:13						
Benzene	9.54	0.20	ug/L	10.0		95.4	80-120			
Toluene	9.75	0.20	ug/L	10.0		97.5	80-120			
Ethylbenzene	9.43	0.20	ug/L	10.0		94.3	80-120			
m,p-Xylene	19.6	0.40	ug/L	20.0		98.1	80-121			
o-Xylene	9.22	0.20	ug/L	10.0		92.2	80-121			
Surrogate: Toluene-d8	5.00		ug/L	*5.00*		*99.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.99		ug/L	*5.00*		*99.9*	*80-120*			
LCS Dup (BIC0073-BSD1)				Prepared: 04-Mar-2020 Analyzed: 04-Mar-2020 16:39						
Benzene	9.66	0.20	ug/L	10.0		96.6	80-120	1.19	30	
Toluene	9.65	0.20	ug/L	10.0		96.5	80-120	1.10	30	
Ethylbenzene	9.59	0.20	ug/L	10.0		95.9	80-120	1.75	30	
m,p-Xylene	20.0	0.40	ug/L	20.0		100	80-121	2.14	30	
o-Xylene	9.39	0.20	ug/L	10.0		93.9	80-121	1.89	30	
Surrogate: Toluene-d8	5.12		ug/L	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.96		ug/L	*5.00*		*99.3*	*80-120*			

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Wet Chemistry - Quality Control

Batch BIC0069 - No Prep Wet Chem

Instrument: Accumet AB150 Analyst: JM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BIC0069-BS1)				Prepared: 04-Mar-2020 Analyzed: 04-Mar-2020 15:20							
pH	6.98	0.01	0.01	pH Units	7.00		99.7	99.2-100.8			
Duplicate (BIC0069-DUP1)		**Source: 20C0047-01**		Prepared: 04-Mar-2020 Analyzed: 04-Mar-2020 15:20							
pH	6.53	0.01	0.01	pH Units		6.56			0.46	20	H

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Wet Chemistry - Quality Control

Batch BIC0080 - EPA 3535A SPE (Solid Phase Extraction)

Instrument: Bal2 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIC0080-BLK1)				Prepared: 05-Mar-2020 Analyzed: 05-Mar-2020 10:42							
HEM Oil & Grease	ND	5	5	mg/L							U
LCS (BIC0080-BS1)				Prepared: 05-Mar-2020 Analyzed: 05-Mar-2020 10:42							
HEM Oil & Grease	37	5	5	mg/L	41.42		88.4	78-114			

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
HEM Oil & Grease	WADOE,NELAP
SGT-HEM NP Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	WADOE,NELAP
EPA 8260C in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

SM 4500-H+ B-00 in Water

pH	WADOE,NELAP,WA-DW

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Analytical Report

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	10-Mar-2020 12:27

Notes and Definitions

H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

19 June 2020

John Long
Wood (Seattle)
600 University St. Suite 600
Seattle, WA 98101

RE: FRP

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
20F0106	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in it entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20F0106	Turn-around Requested: Std	Page: 1 of 1	
ARI Client Company: WOOD	Phone: 530-574-2502	Date: 6/2	Ice Present? Yes
Client Contact: Will Ranny		No. of Coolers: 2	Cooler Temps: 3.0, 1.9
Client Project Name: 0087690050.00001 / FRP			
Client Project #:	Samplers: Will Ranny		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: BTEX	Metals		BTEX	PAHs by 8270	HD			Notes/Comments
RP-060220-01	6/2	1610	W	5	X	X							
RP-060220-02	6/2	1615	W	5	X	X							
RP-060220-03	6/2	1645	W	5	X	X							
Trip Blank	6/2	—	W	4	X								
INF-060220	6/2	1620	W	6				X	X	X			
BTW-060220	6/2	1625	W	6				X	X	X			
EFF-060220	6/2	1630	W	6				X	X	X			
EFF-060220-B	6/2	1635	W	1					X				
EFF-060220-C	6/2	1640	W	1					X				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Spilled on the other COC. samples are split between two phases	Printed Name: William Ranny	Printed Name: Kenny Dang	Printed Name:	Printed Name:
	Company: WOOD	Company: ARI	Company:	Company:
	Date & Time: 6/3/20 1440	Date & Time: 6/3/2020 1422	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INF-060220	20F0106-01	Water	02-Jun-2020 16:20	03-Jun-2020 14:22
BTW-060220	20F0106-02	Water	02-Jun-2020 16:25	03-Jun-2020 14:22
EFF-060220	20F0106-03	Water	02-Jun-2020 16:30	03-Jun-2020 14:22
EFF-060220-B	20F0106-04	Water	02-Jun-2020 16:35	03-Jun-2020 14:22
EFF-060220-C	20F0106-05	Water	02-Jun-2020 16:40	03-Jun-2020 14:22

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

Work Order Case Narrative

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times with the exception of pH which was sent to the lab outside of the holding time.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

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WORK ORDER

20F0106

Client: Wood (Seattle) **Project Manager:** Kelly Bottem

Project: FRP **Project Number:** Former Rhone Poulenc Site 0087690050.00(

Preservation Confirmation

Container ID	Container Type	pH	
20F0106-01 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20F0106-01 B	Small OJ, 500 mL		
20F0106-01 C	VOA Vial, Clear, 40 mL		
20F0106-01 D	VOA Vial, Clear, 40 mL		
20F0106-01 E	VOA Vial, Clear, 40 mL		
20F0106-01 F	VOA Vial, Clear, 40 mL		
20F0106-02 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20F0106-02 B	Small OJ, 500 mL		
20F0106-02 C	VOA Vial, Clear, 40 mL		
20F0106-02 D	VOA Vial, Clear, 40 mL		
20F0106-02 E	VOA Vial, Clear, 40 mL		
20F0106-02 F	VOA Vial, Clear, 40 mL		
20F0106-03 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20F0106-03 B	Small OJ, 500 mL		
20F0106-03 C	VOA Vial, Clear, 40 mL		
20F0106-03 D	VOA Vial, Clear, 40 mL		
20F0106-03 E	VOA Vial, Clear, 40 mL		
20F0106-03 F	VOA Vial, Clear, 40 mL		
20F0106-04 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20F0106-05 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass

JG

Preservation Confirmed By

06/05/2020

Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: WOOD Project Name: FRP

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 20F0106 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1520 1.9 3.0 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 6/3/2020 Time: 1422

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: ___

Was sufficient ice used (if appropriate)? NA (YES) NO

How were bottles sealed in plastic bags? Individually Grouped (Not)

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA (YES) NO

Were all VOC vials free of air bubbles? NA (YES) NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI. (NA) ___

Were the sample(s) split by ARI? (NA) YES Date/Time: ___ Equipment: ___ Split by: ___

Samples Logged by: JJW Date: 06/05/2020 Time: 1641 Labels checked by: JJW

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

INF-060220

20F0106-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D MED — Sampled: 06/02/2020 16:20

Instrument: NT3 Analyst: PKC — Analyzed: 06/08/2020 13:05

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20F0106-01 C

Preparation Batch: BIF0185 — Sample Size: 10 mL

Prepared: 06/08/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*104*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*93.8*	*%*	

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

INF-060220

20F0106-01 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 06/02/2020 16:20

Instrument: Bal2 Analyst: UW — Analyzed: 06/11/2020 10:18

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20F0106-01

Preparation Batch: BIF0314 — Sample Size: 1035 mL

Prepared: 06/11/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

INF-060220

20F0106-01 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 06/02/2020 16:20

Instrument: Accumet AB150 Analyst: UW — Analyzed: 06/05/2020 17:00

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20F0106-01 B

Preparation Batch: BIF0163 — Sample Size: 50 mL

Prepared: 06/05/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.38	pH Units	H

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

BTW-060220

20F0106-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D MED — Sampled: 06/02/2020 16:25

Instrument: NT3 Analyst: PKC — Analyzed: 06/08/2020 13:31

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20F0106-02 C

Preparation Batch: BIF0185 — Sample Size: 10 mL

Prepared: 06/08/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.3*	*%*	

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

BTW-060220

20F0106-02 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 06/02/2020 16:25

Instrument: Bal2 Analyst: UW — Analyzed: 06/11/2020 10:18

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20F0106-02

Preparation Batch: BIF0314 — Sample Size: 1050 mL

Prepared: 06/11/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

BTW-060220

20F0106-02 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 06/02/2020 16:25

Instrument: Accumet AB150 Analyst: UW — Analyzed: 06/05/2020 17:00

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20F0106-02 B

Preparation Batch: BIF0163 — Sample Size: 50 mL

Prepared: 06/05/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.53	pH Units	H

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

EFF-060220

20F0106-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D MED — Sampled: 06/02/2020 16:30

Instrument: NT3 Analyst: PKC — Analyzed: 06/08/2020 13:57

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20F0106-03 C

Preparation Batch: BIF0185 — Sample Size: 10 mL

Prepared: 06/08/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*95.8*	*%*	

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

EFF-060220

20F0106-03 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 06/02/2020 16:30

Instrument: Bal2 Analyst: UW — Analyzed: 06/11/2020 10:18

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20F0106-03

Preparation Batch: BIF0314 — Sample Size: 1065 mL

Prepared: 06/11/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

EFF-060220

20F0106-03 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 06/02/2020 16:30

Instrument: Accumet AB150 Analyst: UW — Analyzed: 06/05/2020 17:00

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20F0106-03 B

Preparation Batch: BIF0163 — Sample Size: 50 mL

Prepared: 06/05/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.52	pH Units	H

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

EFF-060220-B

20F0106-04 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 06/02/2020 16:35

Instrument: Bal2 Analyst: UW — Analyzed: 06/11/2020 10:18

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20F0106-04

Preparation Batch: BIF0314 — Sample Size: 1075 mL

Prepared: 06/11/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

EFF-060220-C

20F0106-05 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 06/02/2020 16:40

Instrument: Bal2 Analyst: UW — Analyzed: 06/11/2020 10:18

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20F0106-05

Preparation Batch: BIF0314 — Sample Size: 1035 mL

Prepared: 06/11/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

Volatile Organic Compounds - Quality Control

Batch BIF0185 - EPA 5030C (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIF0185-BLK1)				Prepared: 08-Jun-2020 Analyzed: 08-Jun-2020 11:47						
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	4.85		ug/L	*5.00*		*97.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.79		ug/L	*5.00*		*95.9*	*80-120*			
LCS (BIF0185-BS1)				Prepared: 08-Jun-2020 Analyzed: 08-Jun-2020 09:37						
Benzene	9.31	0.20	ug/L	10.0		93.1	80-120			
Toluene	9.12	0.20	ug/L	10.0		91.2	80-120			
Ethylbenzene	8.90	0.20	ug/L	10.0		89.0	80-120			
m,p-Xylene	18.2	0.40	ug/L	20.0		90.8	80-121			
o-Xylene	8.73	0.20	ug/L	10.0		87.3	80-121			
Surrogate: Toluene-d8	5.11		ug/L	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.97		ug/L	*5.00*		*99.4*	*80-120*			
LCS Dup (BIF0185-BSD1)				Prepared: 08-Jun-2020 Analyzed: 08-Jun-2020 10:03						
Benzene	9.27	0.20	ug/L	10.0		92.7	80-120	0.52	30	
Toluene	9.16	0.20	ug/L	10.0		91.6	80-120	0.43	30	
Ethylbenzene	8.96	0.20	ug/L	10.0		89.6	80-120	0.65	30	
m,p-Xylene	18.3	0.40	ug/L	20.0		91.7	80-121	0.93	30	
o-Xylene	8.44	0.20	ug/L	10.0		84.4	80-121	3.40	30	
Surrogate: Toluene-d8	4.94		ug/L	*5.00*		*98.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.95		ug/L	*5.00*		*99.0*	*80-120*			

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

Wet Chemistry - Quality Control

Batch BIF0163 - No Prep Wet Chem

Instrument: Accumet AB150 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BIF0163-BS1)				Prepared: 05-Jun-2020 Analyzed: 05-Jun-2020 17:00							
pH	6.96	0.01	0.01	pH Units	7.00		99.4	99.2-100.8			
Duplicate (BIF0163-DUP1)		**Source: 20F0106-01**		Prepared: 05-Jun-2020 Analyzed: 05-Jun-2020 17:00							
pH	6.40	0.01	0.01	pH Units		6.38			0.31	20	H

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

Wet Chemistry - Quality Control

Batch BIF0314 - EPA 3535A SPE (Solid Phase Extraction)

Instrument: Bal2 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIF0314-BLK1)				Prepared: 11-Jun-2020 Analyzed: 11-Jun-2020 10:18							
HEM Oil & Grease	ND	5	5	mg/L							U
LCS (BIF0314-BS1)				Prepared: 11-Jun-2020 Analyzed: 11-Jun-2020 10:18							
HEM Oil & Grease	36	5	5	mg/L	41.21		88.3	78-114			

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Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
HEM Oil & Grease	WADOE
HEM Oil & Grease	WADOE,NELAP
SGT-HEM NP Oil & Grease	WADOE
SGT-HEM NP Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	WADOE
HEM Polar Oil & Grease	WADOE,NELAP
EPA 8260D MED in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Bromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Acrolein	DoD-ELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Iodomethane	DoD-ELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Acrylonitrile	DoD-ELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
Carbon Disulfide	DoD-ELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

Vinyl Acetate	DoD-ELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
2-Butanone	DoD-ELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

Toluene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
2-Hexanone	DoD-ELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
o-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Styrene	DoD-ELAP,CALAP,WADOE
Bromoform	DoD-ELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE

Wood (Seattle)	Project: FRP		
600 University St. Suite 600	Project Number: Former Rhone Poulenc Site	0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager: John Long		19-Jun-2020 06:51

Isopropyl Benzene	DoD-ELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	WADOE

Wood (Seattle)	Project:	FRP	
600 University St. Suite 600	Project Number:	Former Rhone Poulenc Site 0087690050.00004	**Reported:**
Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

n-Hexane	WADOE
2-Pentanone	WADOE
2-Pentanone	WADOE

SM 4500-H+ B-00 in Water

pH	WADOE,NELAP,WA-DW
pH	WADOE,WA-DW

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
WADOE	WA Dept of Ecology	C558	06/30/2020
WA-DW	Ecology - Drinking Water	C558	06/30/2020

Wood (Seattle)	Project:	FRP	
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Seattle WA, 98101	Project Manager:	John Long	19-Jun-2020 06:51

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

15 September 2020

Natasya Gray
Dalton, Olmsted & Fuglevand, Inc
1420 - 156th Ave., NE STE C1
Bellevue, WA 98007

RE: Former Rhone Poulenc

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
20I0004	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20I0004	Turn-around Requested: STANDARD	Page: 1 of 1	
ARI Client Company: DOF	Phone: (425) 785 6322	Date: 9/1/2020	Ice Present? Yes
Client Contact: TREVOR LOUVIERE / TASYA GRAY		No. of Coolers: 1	Cooler Temps: 4.1
Client Project Name: FORMER RHONE - POULENC			
Client Project #: CON-001	Samplers: A. CERRUTI / TREVOR LOUVIERE		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: BTEX	FOG	pH.						Notes/Comments
INF-090120	9/01/20	0935	W	6	X	X	X						
BTW-090120	9/1/20	0942	W	6	X	X	X						
EFF-090120	9/1/20	0948	W	6	X	X	X						
EFF-090120-B	9/1/20	0953	W	1		X							
EFF-090120-C	9/1/20	0958	W	1		X							
TRIP BLANK	—	—	W	2									*HOLD

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: ANTHONY CERRUTI	Printed Name: Jacobsen/Fe	Printed Name:	Printed Name:
	Company: DOF	Company: ARI	Company:	Company:
	Date & Time: 9/1/2020 1047.	Date & Time: 09/01/2020 1047	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INF-090120	20I0004-01	Water	01-Sep-2020 09:35	01-Sep-2020 10:47
BTW-090120	20I0004-02	Water	01-Sep-2020 09:42	01-Sep-2020 10:47
EFF-090120	20I0004-03	Water	01-Sep-2020 09:48	01-Sep-2020 10:47
EFF-090120-B	20I0004-04	Water	01-Sep-2020 09:53	01-Sep-2020 10:47
EFF-090120-C	20I0004-05	Water	01-Sep-2020 09:58	01-Sep-2020 10:47
Trip Blanks	20I0004-06	Water	01-Sep-2020 09:35	01-Sep-2020 10:47

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Work Order Case Narrative

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within limits.

The matrix spike/matrix spike duplicate (MS/MSD) spike recoveries and relative percent difference (RPD) were within limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times with the exception of pH which was sent to the lab outside of the holding time.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

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WORK ORDER

20I0004

Client: Dalton, Olmsted & Fuglevand, Inc **Project Manager:** Kelly Bottem

Project: Former Rhone Poulenc **Project Number:** Former Rhone Poulenc Site 0087690050

Preservation Confirmation

Container ID	Container Type	pH	
20I0004-01 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20I0004-01 B	Small OJ, 500 mL		
20I0004-01 C	VOA Vial, Clear, 40 mL		
20I0004-01 D	VOA Vial, Clear, 40 mL		
20I0004-01 E	VOA Vial, Clear, 40 mL		
20I0004-01 F	VOA Vial, Clear, 40 mL		
20I0004-02 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20I0004-02 B	Small OJ, 500 mL		
20I0004-02 C	VOA Vial, Clear, 40 mL		
20I0004-02 D	VOA Vial, Clear, 40 mL		
20I0004-02 E	VOA Vial, Clear, 40 mL		
20I0004-02 F	VOA Vial, Clear, 40 mL		
20I0004-03 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20I0004-03 B	Small OJ, 500 mL		
20I0004-03 C	VOA Vial, Clear, 40 mL		
20I0004-03 D	VOA Vial, Clear, 40 mL		
20I0004-03 E	VOA Vial, Clear, 40 mL		
20I0004-03 F	VOA Vial, Clear, 40 mL		
20I0004-04 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20I0004-05 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20I0004-06 A	VOA Vial, Clear, 40 mL		
20I0004-06 B	VOA Vial, Clear, 40 mL		

JSm
Preservation Confirmed By

09/01/2020
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: DOE Project Name: FRP

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ____

Assigned ARI Job No: 20I0004 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1047 4.1°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: JB Date: 09/01/2020 Time: 1047

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?			YES NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?			YES NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	8/26/20	

Were the sample(s) split by ARI? NA YES Date/Time: ____ Equipment: ____ Split by: ____

Samples Logged by: ~~KD~~ JB Date: 9/1/2020 Time: ~~1200~~ 1242 JB Labels checked by: KD

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

Samples: EFF-090120-B and Eff-090120-C have no sample time written on labels.

By: KD Date: 9/1/2020

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

INF-090120

20I0004-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 09/01/2020 09:35

Instrument: NT2 Analyst: PKC — Analyzed: 09/01/2020 19:10

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20I0004-01 C

Preparation Batch: BII0015 — Sample Size: 10 mL

Prepared: 09/01/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*89.8*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*92.7*	*%*	

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

INF-090120

20I0004-01 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 09/01/2020 09:35

Instrument: Bal2 Analyst: UW — Analyzed: 09/02/2020 10:06

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20I0004-01

Preparation Batch: BII0040 — Sample Size: 1015 mL

Prepared: 09/02/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

INF-090120

20I0004-01 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 09/01/2020 09:35

Instrument: Accumet AB150 Analyst: UW — Analyzed: 09/01/2020 14:30

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20I0004-01 B

Preparation Batch: BII0024 — Sample Size: 50 mL

Prepared: 09/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.29	pH Units	H

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

BTW-090120

20I0004-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 09/01/2020 09:42

Instrument: NT2 Analyst: PKC — Analyzed: 09/01/2020 19:32

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20I0004-02 C

Preparation Batch: BII0015 — Sample Size: 10 mL

Prepared: 09/01/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*93.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*89.4*	*%*	

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

BTW-090120

20I0004-02 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 09/01/2020 09:42

Instrument: Bal2 Analyst: UW — Analyzed: 09/02/2020 10:06

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20I0004-02

Preparation Batch: BII0040 — Sample Size: 1040 mL

Prepared: 09/02/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

BTW-090120

20I0004-02 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 09/01/2020 09:42

Instrument: Accumet AB150 Analyst: UW — Analyzed: 09/01/2020 14:30

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20I0004-02 B

Preparation Batch: BII0024 — Sample Size: 50 mL

Prepared: 09/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.31	pH Units	H

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

EFF-090120

20I0004-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 09/01/2020 09:48

Instrument: NT2 Analyst: PKC — Analyzed: 09/01/2020 19:54

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20I0004-03 D

Preparation Batch: BII0015 — Sample Size: 10 mL

Prepared: 09/01/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*92.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*90.5*	*%*	

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

EFF-090120

20I0004-03 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 09/01/2020 09:48

Instrument: Bal2 Analyst: UW — Analyzed: 09/02/2020 10:06

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20I0004-03

Preparation Batch: BII0040 — Sample Size: 1065 mL

Prepared: 09/02/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

EFF-090120

20I0004-03 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 09/01/2020 09:48

Instrument: Accumet AB150 Analyst: UW — Analyzed: 09/01/2020 14:30

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20I0004-03 B

Preparation Batch: BII0024 — Sample Size: 50 mL

Prepared: 09/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.33	pH Units	H

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

EFF-090120-B

20I0004-04 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 09/01/2020 09:53

Instrument: Bal2 Analyst: UW — Analyzed: 09/02/2020 10:06

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20I0004-04

Preparation Batch: BII0040 — Sample Size: 1070 mL

Prepared: 09/02/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

EFF-090120-C

20I0004-05 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 09/01/2020 09:58

Instrument: Bal2 Analyst: UW — Analyzed: 09/02/2020 10:06

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20I0004-05

Preparation Batch: BII0040 — Sample Size: 1070 mL

Prepared: 09/02/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Trip Blanks

20I0004-06 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 09/01/2020 09:35
Instrument: NT2 Analyst: PKC — Analyzed: 09/01/2020 20:16

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20I0004-06 A
Preparation Batch: BII0015 — Sample Size: 10 mL
Prepared: 09/01/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*92.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*90.5*	*%*	

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1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	15-Sep-2020 19:00

Volatile Organic Compounds - Quality Control

Batch BII0015 - EPA 5030C (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BII0015-BLK1)				Prepared: 01-Sep-2020 Analyzed: 01-Sep-2020 13:58						
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	4.66		ug/L	*5.00*		*93.1*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.86		ug/L	*5.00*		*97.2*	*80-120*			
LCS (BII0015-BS1)				Prepared: 01-Sep-2020 Analyzed: 01-Sep-2020 11:56						
Benzene	9.41	0.20	ug/L	10.0		94.1	80-120			
Toluene	9.51	0.20	ug/L	10.0		95.1	80-120			
Ethylbenzene	9.69	0.20	ug/L	10.0		96.9	80-120			
m,p-Xylene	20.9	0.40	ug/L	20.0		105	80-121			
o-Xylene	10.1	0.20	ug/L	10.0		101	80-121			
Surrogate: Toluene-d8	4.95		ug/L	*5.00*		*99.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.17		ug/L	*5.00*		*103*	*80-120*			
LCS Dup (BII0015-BSD1)				Prepared: 01-Sep-2020 Analyzed: 01-Sep-2020 12:17						
Benzene	9.69	0.20	ug/L	10.0		96.9	80-120	2.97	30	
Toluene	9.70	0.20	ug/L	10.0		97.0	80-120	1.97	30	
Ethylbenzene	10.9	0.20	ug/L	10.0		109	80-120	11.30	30	
m,p-Xylene	21.9	0.40	ug/L	20.0		110	80-121	4.74	30	
o-Xylene	10.8	0.20	ug/L	10.0		108	80-121	7.11	30	
Surrogate: Toluene-d8	4.81		ug/L	*5.00*		*96.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.14		ug/L	*5.00*		*103*	*80-120*			

Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	15-Sep-2020 19:00

Wet Chemistry - Quality Control

Batch BII0024 - No Prep Wet Chem

Instrument: Accumet AB150 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BII0024-BS1)				Prepared: 01-Sep-2020 Analyzed: 01-Sep-2020 14:30							
pH	6.97	0.01	0.01	pH Units	7.00		99.6	99.2-100.8			
Duplicate (BII0024-DUP1)		**Source: 20I0004-01**		Prepared: 01-Sep-2020 Analyzed: 01-Sep-2020 14:30							
pH	6.31	0.01	0.01	pH Units		6.29			0.32	20	H

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Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	15-Sep-2020 19:00

Wet Chemistry - Quality Control

Batch BII0040 - EPA 3535A SPE (Solid Phase Extraction)

Instrument: Bal2 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BII0040-BLK1)				Prepared: 02-Sep-2020 Analyzed: 02-Sep-2020 10:06							
HEM Oil & Grease	ND	5	5	mg/L							U
LCS (BII0040-BS1)				Prepared: 02-Sep-2020 Analyzed: 02-Sep-2020 10:06							
HEM Oil & Grease	38	5	5	mg/L	42.04		90.9	78-114			

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
HEM Oil & Grease	WADOE,NELAP
HEM Oil & Grease	WADOE,NELAP
HEM Oil & Grease	WADOE
HEM Oil & Grease	NELAP
SGT-HEM NP Oil & Grease	WADOE,NELAP
SGT-HEM NP Oil & Grease	NELAP
SGT-HEM NP Oil & Grease	WADOE
SGT-HEM NP Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	NELAP
HEM Polar Oil & Grease	WADOE
HEM Polar Oil & Grease	WADOE,NELAP
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP
Vinyl Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP
Trichlorofluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Acrolein	DoD-ELAP,NELAP,CALAP
Acrolein	DoD-ELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP
Acetone	DoD-ELAP,ADEC,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Iodomethane	DoD-ELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP
Methylene Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
2-Butanone	DoD-ELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP
Benzene	DoD-ELAP,ADEC,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP
4-Methyl-2-Pentanone	DoD-ELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP
Tetrachloroethene	DoD-ELAP,ADEC,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Dibromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP
m,p-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP
Styrene	DoD-ELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP
Bromoform	DoD-ELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP
Bromobenzene	DoD-ELAP,NELAP,CALAP
Bromobenzene	DoD-ELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

2-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP
4-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP
t-Butylbenzene	DoD-ELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP
s-Butylbenzene	DoD-ELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,4-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP
Dichlorodifluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	
n-Hexane	WADOE
n-Hexane	WADOE
n-Hexane	WADOE
2-Pentanone	WADOE
2-Pentanone	WADOE
2-Pentanone	WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

2-Pentanone

SM 4500-H+ B-00 in Water

pH	NELAP,WA-DW
pH	WADOE,WA-DW
pH	WADOE,NELAP,WA-DW
pH	WADOE,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	15-Sep-2020 19:00

Notes and Definitions

*	Flagged value is not within established control limits.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

18 December 2020

Natasya Gray
Dalton, Olmsted & Fuglevand, Inc
1420 - 156th Ave., NE STE C1
Bellevue, WA 98007

RE: Former Rhone Poulenc

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
20L0005	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 20L0005	Turn-around Requested: Standard	Page: 1 of 1	
ARI Client Company: DOF	Phone:	Date: 12/1/20	Ice Present? Yes
Client Contact: Trevor Lowriere / Tasya Gray		No. of Coolers: 1	Cooler Temps: 8.5
Client Project Name: FRP			
Client Project #: CON-001	Samplers: T. Lowriere, E. Beaver		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: BTEX	pH	HEM 0469 FOG						Notes/Comments
INF-120120	12/1/20	1020	W	6	X	X	X						
BTW-120120		1025		6	X	X	X						
EFF-120120		1035		6	X	X	X						
EFF-120120-B		1040		1			X						
EFF-120120-C		1045		1			X						

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: EZRA BEAVER	Printed Name: Kenny Dang	Printed Name:	Printed Name:
	Company: DOF	Company: ARI	Company:	Company:
	Date & Time: 12/1/20 11:27	Date & Time: 12/1/20 1127	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
INF-120120	20L0005-01	Water	01-Dec-2020 10:20	01-Dec-2020 11:27
BTW-120120	20L0005-02	Water	01-Dec-2020 10:25	01-Dec-2020 11:27
EFF-120120	20L0005-03	Water	01-Dec-2020 10:35	01-Dec-2020 11:27
EFF-120120-B	20L0005-04	Water	01-Dec-2020 10:40	01-Dec-2020 11:27
EFF-120120-C	20L0005-05	Water	01-Dec-2020 10:45	01-Dec-2020 11:27

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

Work Order Case Narrative

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times with the exception of pH which was sent to the lab outside of the holding time.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

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WORK ORDER

20L0005

Client: Dalton, Olmsted & Fuglevand, Inc **Project Manager:** Kelly Bottem

Project: Former Rhone Poulenc **Project Number:** Former Rhone Poulenc Site 0087690050

Preservation Confirmation

Container ID	Container Type	pH	
20L0005-01 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20L0005-01 B	Small OJ, 500 mL		
20L0005-01 C	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-01 D	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-01 E	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-01 F	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-02 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20L0005-02 B	Small OJ, 500 mL		
20L0005-02 C	VOA Vial, Clear, 40 mL		
20L0005-02 D	VOA Vial, Clear, 40 mL		
20L0005-02 E	VOA Vial, Clear, 40 mL		
20L0005-02 F	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-03 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20L0005-03 B	Small OJ, 500 mL		
20L0005-03 C	VOA Vial, Clear, 40 mL		
20L0005-03 D	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-03 E	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-03 F	VOA Vial, Clear, 40 mL	Bubbles	
20L0005-04 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass
20L0005-05 A	Glass NM, Amber, 1000 mL, 9N H2SO4	<2	Pass

SC
Preservation Confirmed By

12/1/2020
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: DOF Project Name: FRP

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 20L0005 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1129 6.5

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00527006

Cooler Accepted by: KO Date: 12/1/20 Time: 1129

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ...	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: SC Date: 12/1/2020 Time: 1330 Labels checked by: SC

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 20L0005

Cooler#: 1 **Temperature(°C):** 4.5

Sample ID	Bottle Count	Bottle Type
Samples received about 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: _____ Date: _____ Time: _____

Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	18-Dec-2020 18:10

INF-120120

20L0005-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 12/01/2020 10:20

Instrument: NT3 Analyst: PC — Analyzed: 12/02/2020 13:30

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20L0005-01 E

Preparation Batch: BIL0058 — Sample Size: 10 mL

Prepared: 12/02/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*94.3*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.0*	*%*	

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

INF-120120

20L0005-01 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 12/01/2020 10:20

Instrument: Bal2 Analyst: UW — Analyzed: 12/03/2020 15:11

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20L0005-01

Preparation Batch: BIL0111 — Sample Size: 1025 mL

Prepared: 12/03/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

INF-120120

20L0005-01 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 12/01/2020 10:20

Instrument: Accumet AB150 Analyst: BF — Analyzed: 12/01/2020 14:24

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20L0005-01 B

Preparation Batch: BIL0024 — Sample Size: 50 mL

Prepared: 12/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.46	pH Units	H

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

BTW-120120

20L0005-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 12/01/2020 10:25

Instrument: NT3 Analyst: PC — Analyzed: 12/02/2020 13:56

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20L0005-02 C

Preparation Batch: BIL0058 — Sample Size: 10 mL

Prepared: 12/02/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.8*	*%*	

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

BTW-120120

20L0005-02 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 12/01/2020 10:25

Instrument: Bal2 Analyst: UW — Analyzed: 12/03/2020 15:11

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20L0005-02

Preparation Batch: BIL0111 — Sample Size: 1030 mL

Prepared: 12/03/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

BTW-120120

20L0005-02 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 12/01/2020 10:25

Instrument: Accumet AB150 Analyst: BF — Analyzed: 12/01/2020 14:24

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20L0005-02 B

Preparation Batch: BIL0024 — Sample Size: 50 mL

Prepared: 12/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.46	pH Units	H

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

EFF-120120

20L0005-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D — Sampled: 12/01/2020 10:35

Instrument: NT3 Analyst: PC — Analyzed: 12/02/2020 14:21

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 20L0005-03 C

Preparation Batch: BIL0058 — Sample Size: 10 mL

Prepared: 12/02/2020 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.2*	*%*	

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

EFF-120120

20L0005-03 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 12/01/2020 10:35

Instrument: Bal2 Analyst: UW — Analyzed: 12/03/2020 15:11

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20L0005-03

Preparation Batch: BIL0111 — Sample Size: 1070 mL

Prepared: 12/03/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

EFF-120120

20L0005-03 (Water)

Wet Chemistry

Method: SM 4500-H+ B-00 — Sampled: 12/01/2020 10:35

Instrument: Accumet AB150 Analyst: BF — Analyzed: 12/01/2020 14:24

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 20L0005-03 B

Preparation Batch: BIL0024 — Sample Size: 50 mL

Prepared: 12/01/2020 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
pH		1	0.01	0.01	6.47	pH Units	H

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

EFF-120120-B

20L0005-04 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 12/01/2020 10:40

Instrument: Bal2 Analyst: UW — Analyzed: 12/03/2020 15:11

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20L0005-04

Preparation Batch: BIL0111 — Sample Size: 980 mL

Prepared: 12/03/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

EFF-120120-C

20L0005-05 (Water)

Wet Chemistry

Method: EPA 1664B — Sampled: 12/01/2020 10:45

Instrument: Bal2 Analyst: UW — Analyzed: 12/03/2020 15:11

Sample Preparation: Preparation Method: EPA 3535A SPE (Solid Phase Extraction) — Extract ID: 20L0005-05

Preparation Batch: BIL0111 — Sample Size: 1055 mL

Prepared: 12/03/2020 — Final Volume: 1000 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
HEM Oil & Grease		1	5	5	ND	mg/L	U
SGT-HEM NP Oil & Grease		1	5	5	ND	mg/L	U
HEM Polar Oil & Grease		1	5	5	ND	mg/L	U

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Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	18-Dec-2020 18:10

Volatile Organic Compounds - Quality Control

Batch BIL0058 - EPA 5030C (Purge and Trap)

Instrument: NT3 Analyst: PC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIL0058-BLK1)				Prepared: 02-Dec-2020 Analyzed: 02-Dec-2020 12:12						
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	4.76		ug/L	*5.00*		*95.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.92		ug/L	*5.00*		*98.3*	*80-120*			
LCS (BIL0058-BS1)				Prepared: 02-Dec-2020 Analyzed: 02-Dec-2020 10:03						
Benzene	11.1	0.20	ug/L	10.0		111	80-120			
Toluene	10.9	0.20	ug/L	10.0		109	80-120			
Ethylbenzene	11.1	0.20	ug/L	10.0		111	80-120			
m,p-Xylene	22.8	0.40	ug/L	20.0		114	80-121			
o-Xylene	10.9	0.20	ug/L	10.0		109	80-121			
Surrogate: Toluene-d8	5.06		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.95		ug/L	*5.00*		*99.0*	*80-120*			
LCS Dup (BIL0058-BSD1)				Prepared: 02-Dec-2020 Analyzed: 02-Dec-2020 10:29						
Benzene	10.5	0.20	ug/L	10.0		105	80-120	5.41	30	
Toluene	10.4	0.20	ug/L	10.0		104	80-120	4.55	30	
Ethylbenzene	10.3	0.20	ug/L	10.0		103	80-120	7.52	30	
m,p-Xylene	20.9	0.40	ug/L	20.0		105	80-121	8.39	30	
o-Xylene	10.4	0.20	ug/L	10.0		104	80-121	4.51	30	
Surrogate: Toluene-d8	5.03		ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.88		ug/L	*5.00*		*97.7*	*80-120*			

Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	18-Dec-2020 18:10

Wet Chemistry - Quality Control

Batch BIL0024 - No Prep Wet Chem

Instrument: Accumet AB150 Analyst: BF

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BIL0024-BS1)				Prepared: 01-Dec-2020 Analyzed: 01-Dec-2020 14:24							
pH	6.96	0.01	0.01	pH Units	7.00		99.4	99.2-100.8			

Dalton, Olmsted & Fuglevand, Inc	Project: Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number: Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager: Natasya Gray	18-Dec-2020 18:10

Wet Chemistry - Quality Control

Batch BIL0111 - EPA 3535A SPE (Solid Phase Extraction)

Instrument: Bal2 Analyst: UW

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BIL0111-BLK1)				Prepared: 03-Dec-2020 Analyzed: 03-Dec-2020 15:11							
HEM Oil & Grease	ND	5	5	mg/L							U
LCS (BIL0111-BS1)				Prepared: 03-Dec-2020 Analyzed: 03-Dec-2020 15:11							
HEM Oil & Grease	36	5	5	mg/L	40.35		90.2	78-114			

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Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

Certified Analyses included in this Report

Analyte	Certifications
EPA 1664B in Water	
HEM Oil & Grease	WADOE,NELAP
HEM Oil & Grease	WADOE,NELAP
HEM Oil & Grease	WADOE
HEM Oil & Grease	NELAP
SGT-HEM NP Oil & Grease	WADOE,NELAP
SGT-HEM NP Oil & Grease	NELAP
SGT-HEM NP Oil & Grease	WADOE
SGT-HEM NP Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	WADOE,NELAP
HEM Polar Oil & Grease	NELAP
HEM Polar Oil & Grease	WADOE
HEM Polar Oil & Grease	WADOE,NELAP
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP
Vinyl Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP
Trichlorofluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

Acrolein	DoD-ELAP,NELAP,CALAP
Acrolein	DoD-ELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP
Acetone	DoD-ELAP,ADEC,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Iodomethane	DoD-ELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP
Methylene Chloride	DoD-ELAP,ADEC,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
2-Butanone	DoD-ELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP
Benzene	DoD-ELAP,ADEC,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP
4-Methyl-2-Pentanone	DoD-ELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP
Tetrachloroethene	DoD-ELAP,ADEC,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP
Dibromochloromethane	DoD-ELAP,ADEC,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP
m,p-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP
Styrene	DoD-ELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP
Bromoform	DoD-ELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP
Bromobenzene	DoD-ELAP,NELAP,CALAP
Bromobenzene	DoD-ELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

2-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP
4-Chlorotoluene	DoD-ELAP,ADEC,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP
t-Butylbenzene	DoD-ELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	DoD-ELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP
s-Butylbenzene	DoD-ELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,4-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP
Dichlorodifluoromethane	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	
n-Hexane	WADOE
n-Hexane	WADOE
n-Hexane	WADOE
2-Pentanone	WADOE
2-Pentanone	WADOE
2-Pentanone	WADOE

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

2-Pentanone

SM 4500-H+ B-00 in Water

pH	NELAP,WA-DW
pH	WADOE,WA-DW
pH	WADOE,NELAP,WA-DW
pH	WADOE,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021

Dalton, Olmsted & Fuglevand, Inc	Project:	Former Rhone Poulenc	
1420 - 156th Ave., NE STE C1	Project Number:	Former Rhone Poulenc Site 0087690050	**Reported:**
Bellevue WA, 98007	Project Manager:	Natasya Gray	18-Dec-2020 18:10

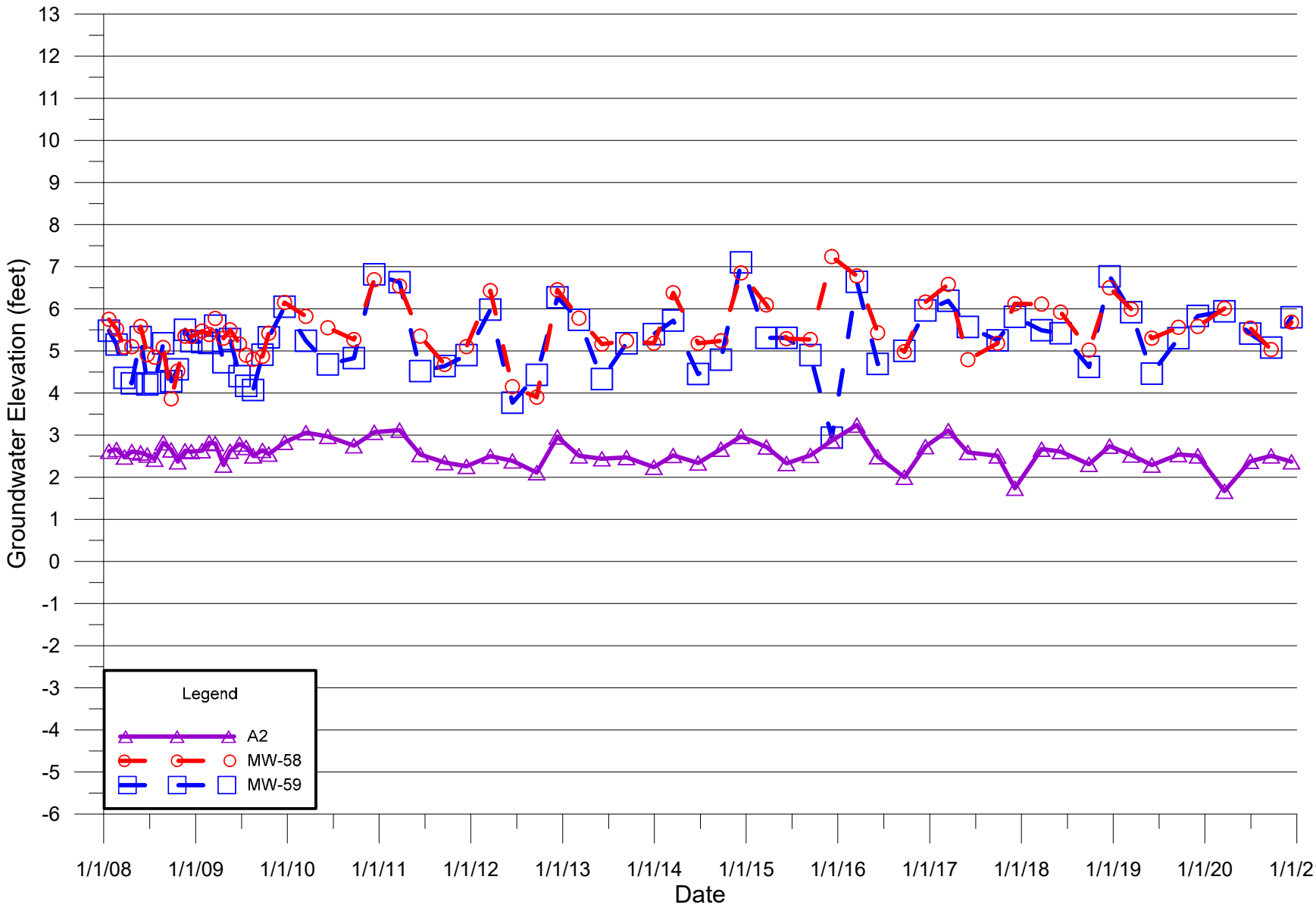
Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
H	Hold time violation - Hold time was exceeded.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Appendix - B

Cumulative Water Level Trends

P:\Container Properties\Field\Performance Monitoring\SAR Fig 3 O&M B-1.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall
3. Hollow Points = Upper Aquifer Zone Well

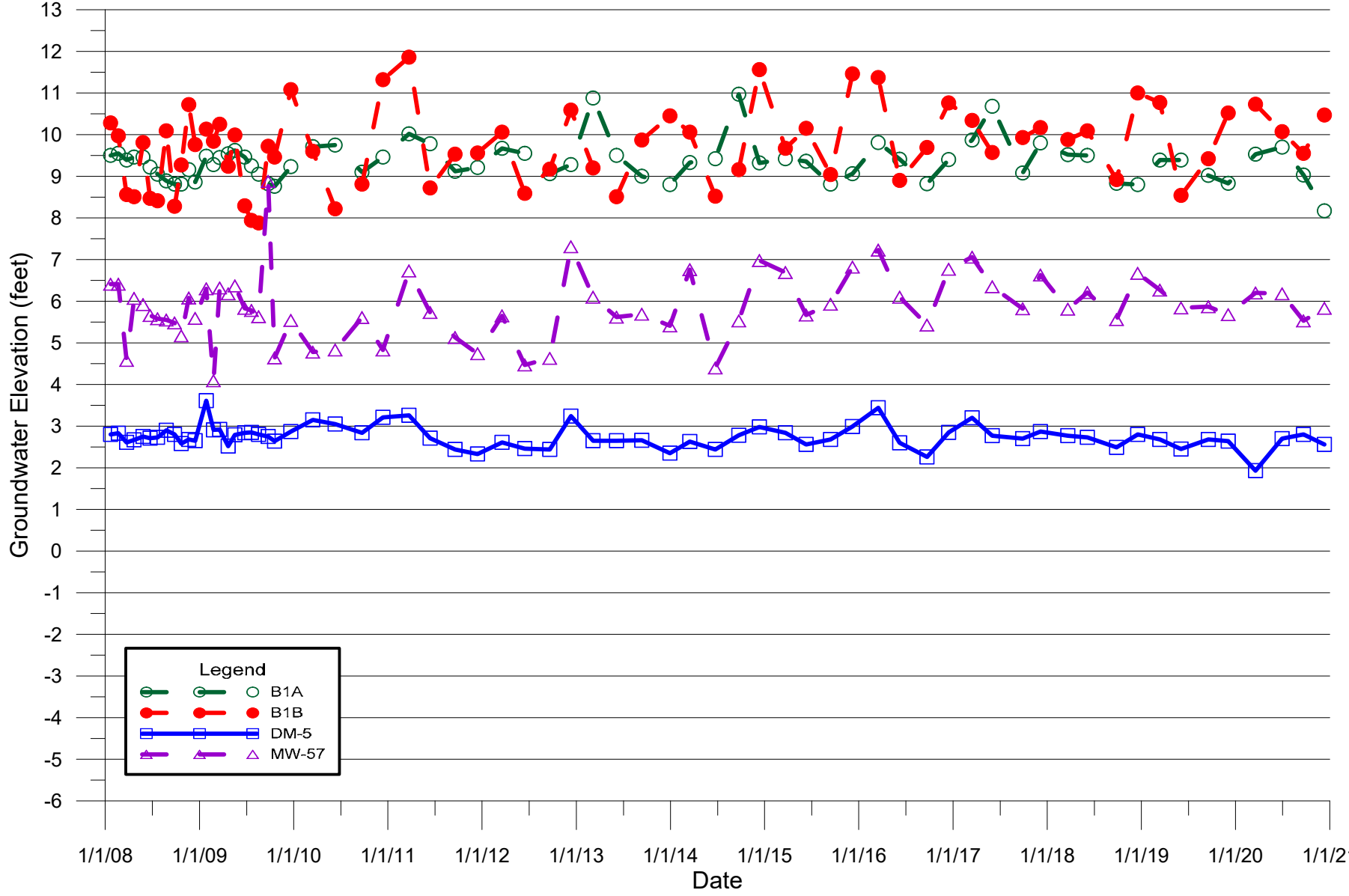
DOF

GROUNDWATER ELEVATIONS:
A2, MW-58, AND MW-59
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-1

P:\Container Properties\Grapher Files\SAR Fig 4 O&M B-2.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

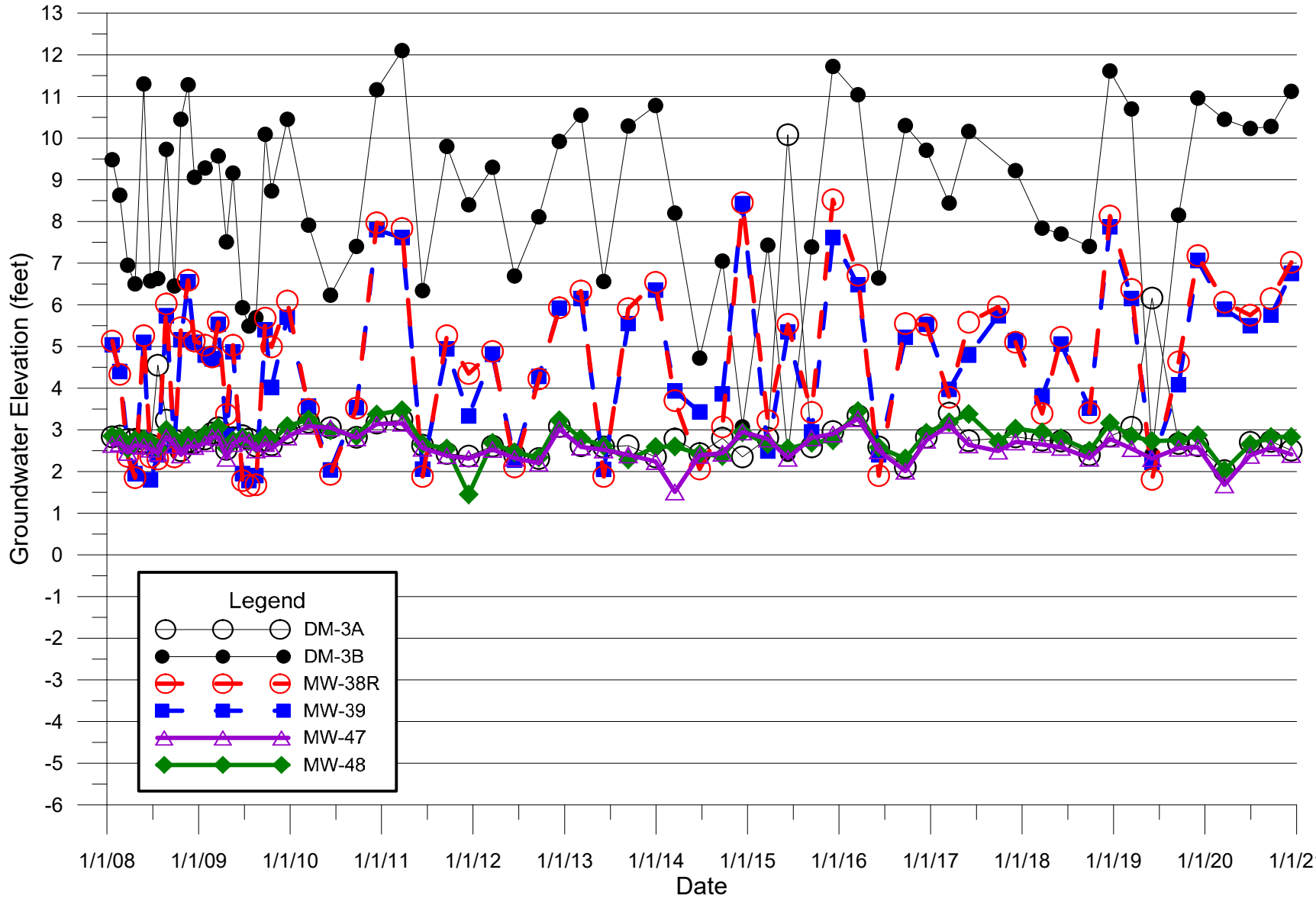
DOF

GROUNDWATER ELEVATIONS:
B1A, B1B, DM-5, AND MW-57
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-2

P:\Container Properties\Grapher Files\SAR Fig 5 O&M B-3.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

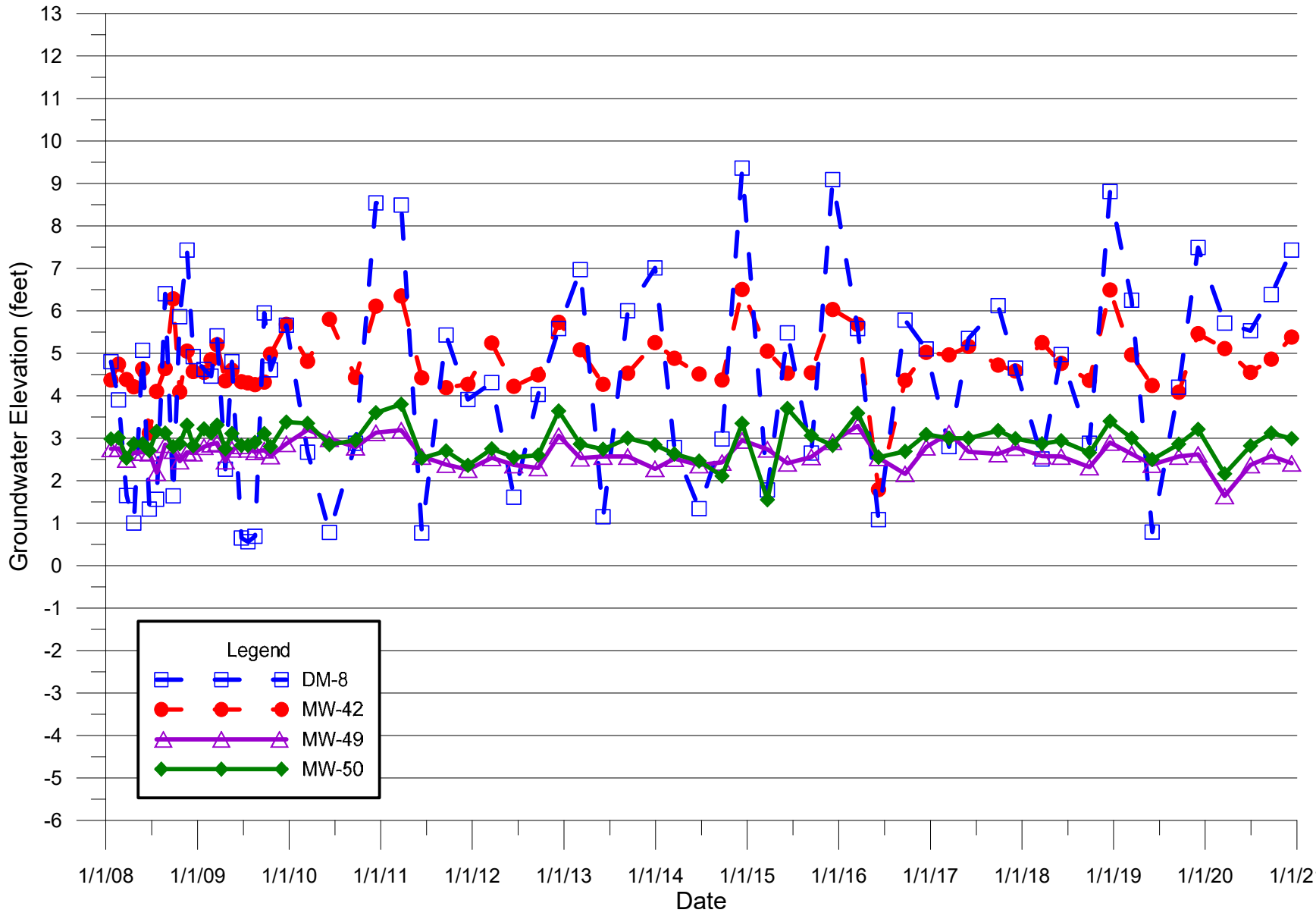
DOF

GROUNDWATER ELEVATIONS:
DM-3A, DM-3B, MW-38R, MW-39, MW-47, AND MW-48
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-3

P:\Container Properties\Grapher Files\SAR Fig 6 O&M B-4.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

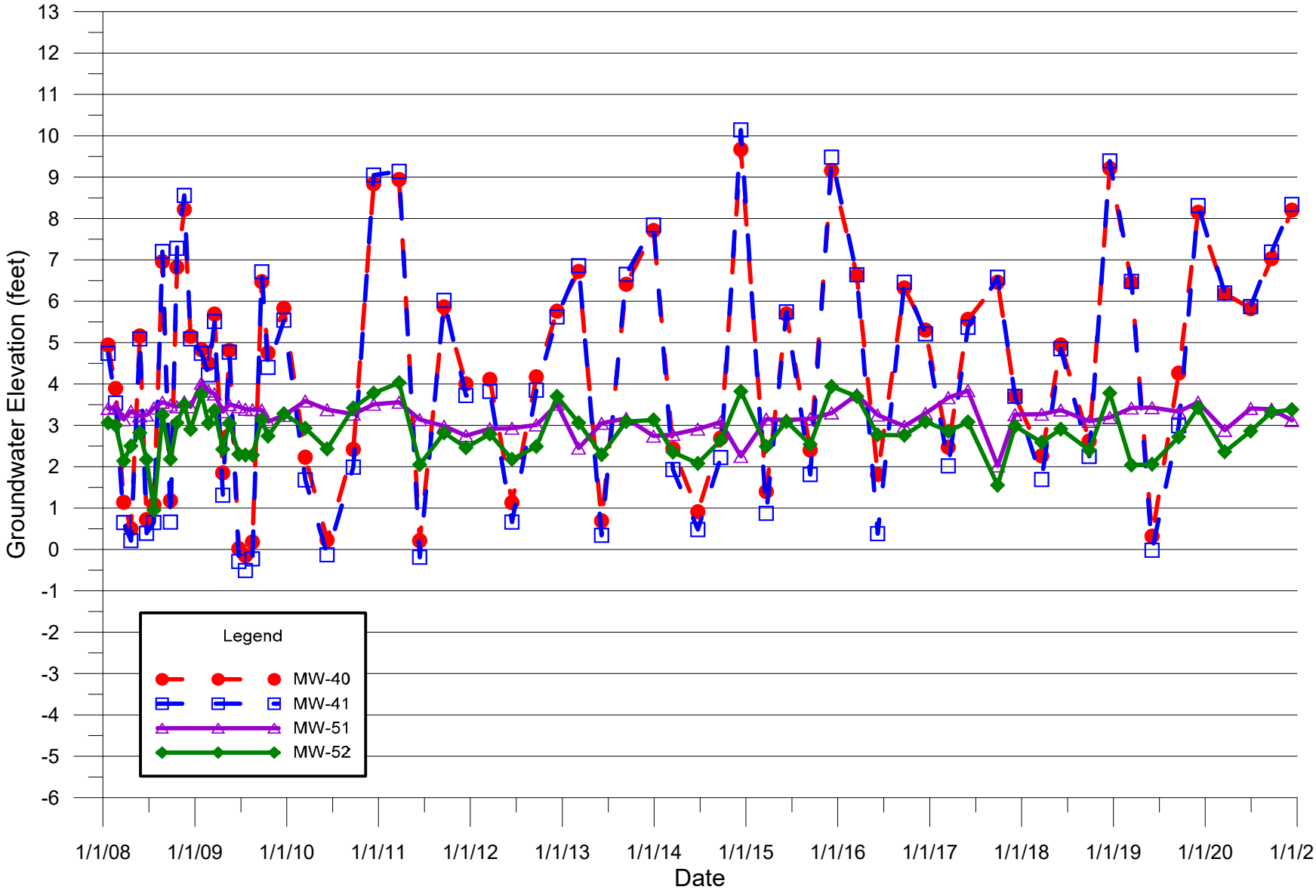
DOF

GROUNDWATER ELEVATIONS:
DM-8, MW-42, MW-49, AND MW-50
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-4

P:\Container Properties\Grapher Files\SAR Fig 7 O&M B-5.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

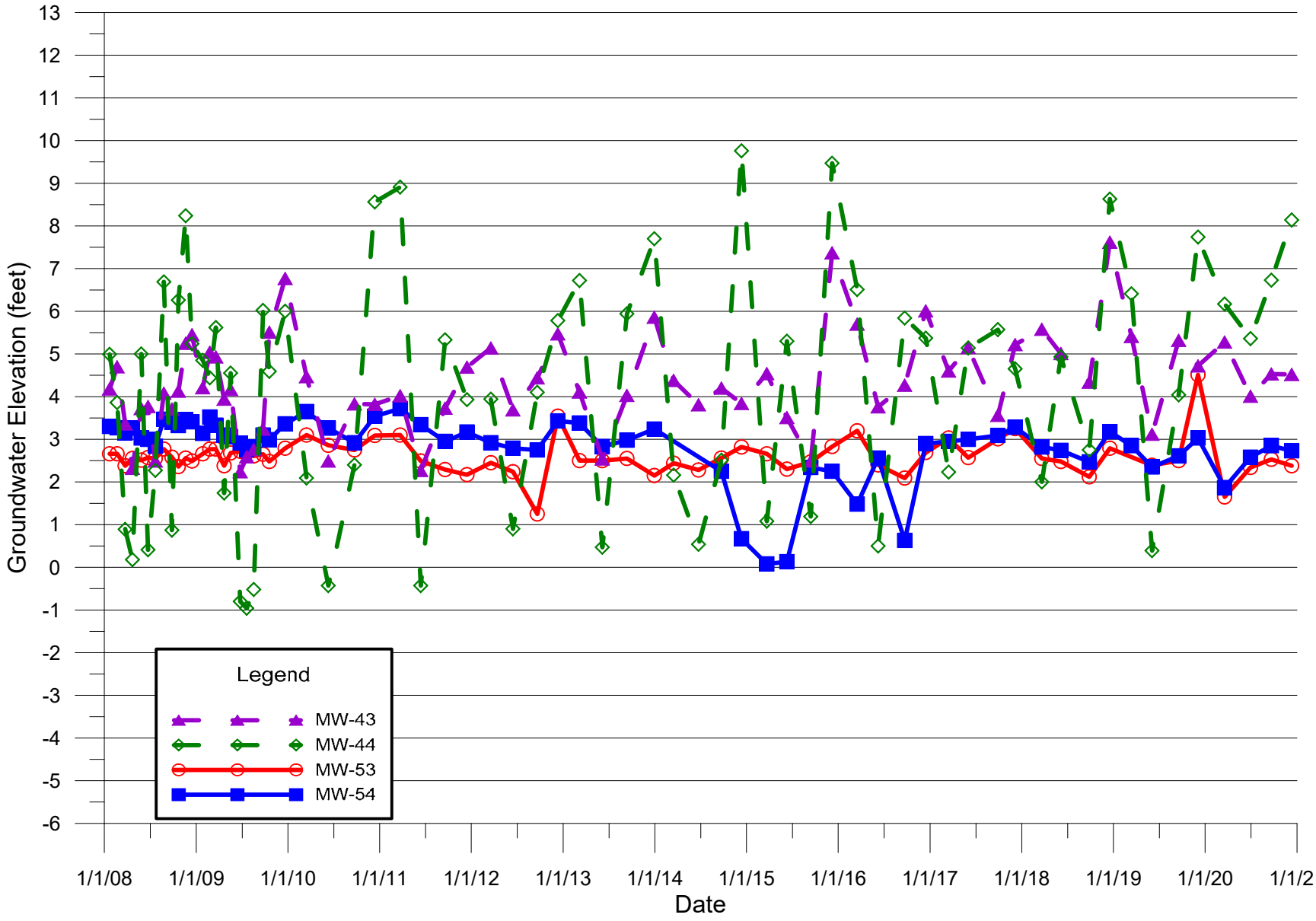
DOF

GROUNDWATER ELEVATIONS:
MW-40, MW-41, MW-51, AND MW-52
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-5

P:\Container Properties\Grapher Files\SAR Fig 8 O&M B-6.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

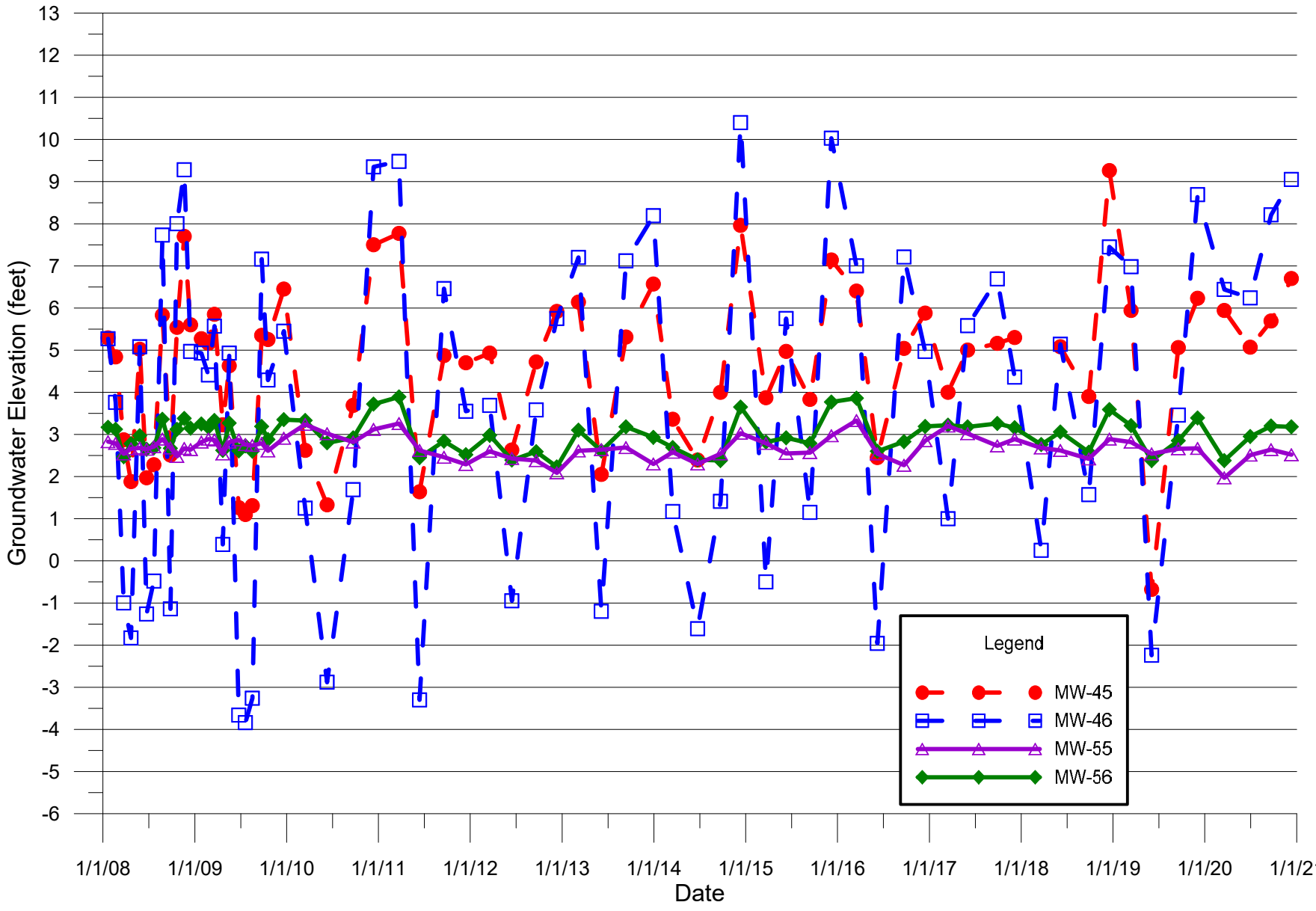
DOF

GROUNDWATER ELEVATIONS:
MW-43, MW-44, MW-53, AND MW-54
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-6

P:\Container Properties\Grapher Files\SAR Fig 9 O&M B-7.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

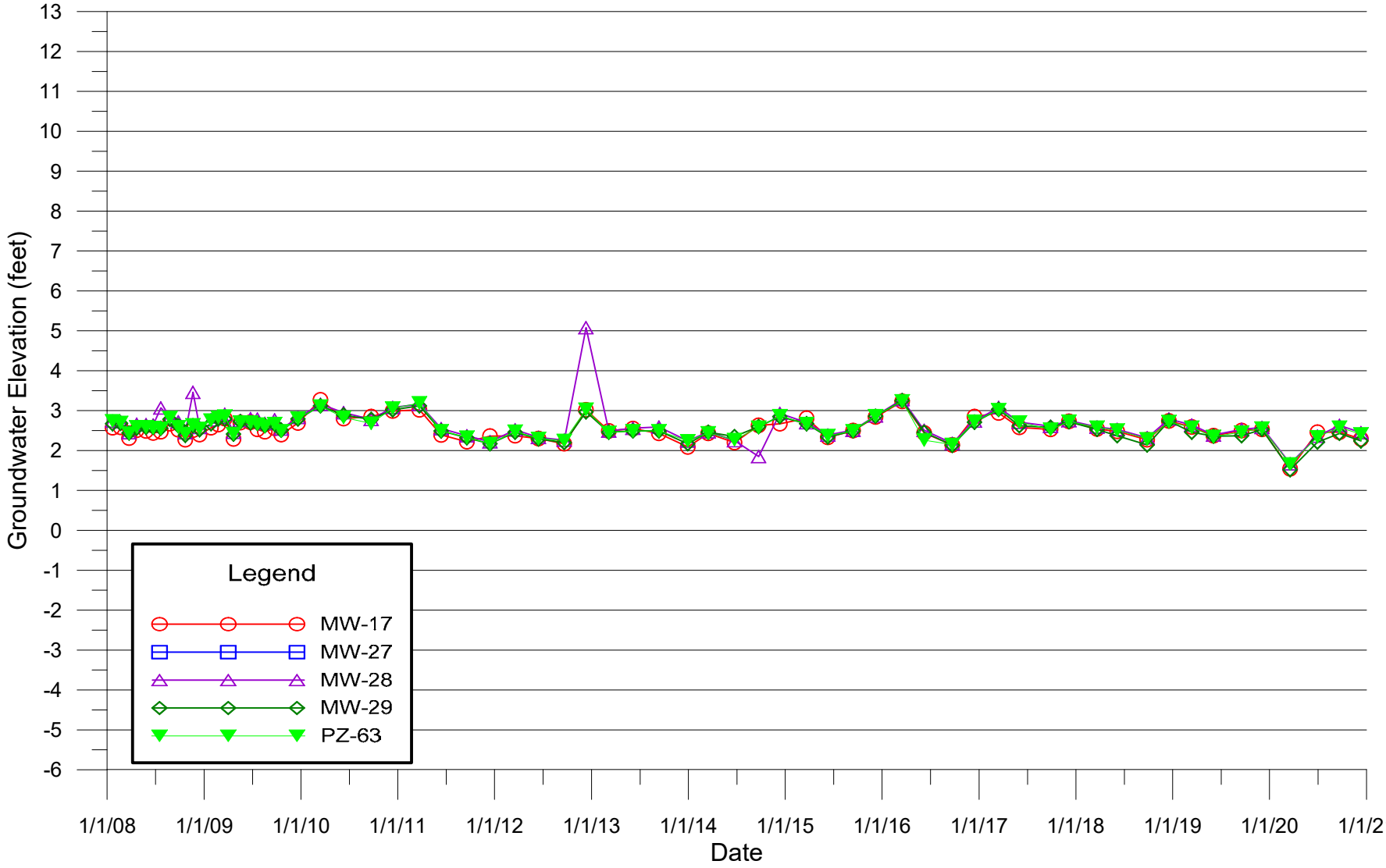
DOF

GROUNDWATER ELEVATIONS:
MW-45, MW-46, MW-55, AND MW-56
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-7

P:\Container Properties\Grapher Files\SAR Fig 10 O&M B-8.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well
5. MW-27 has not been measured since April 2007 due to an obstruction.

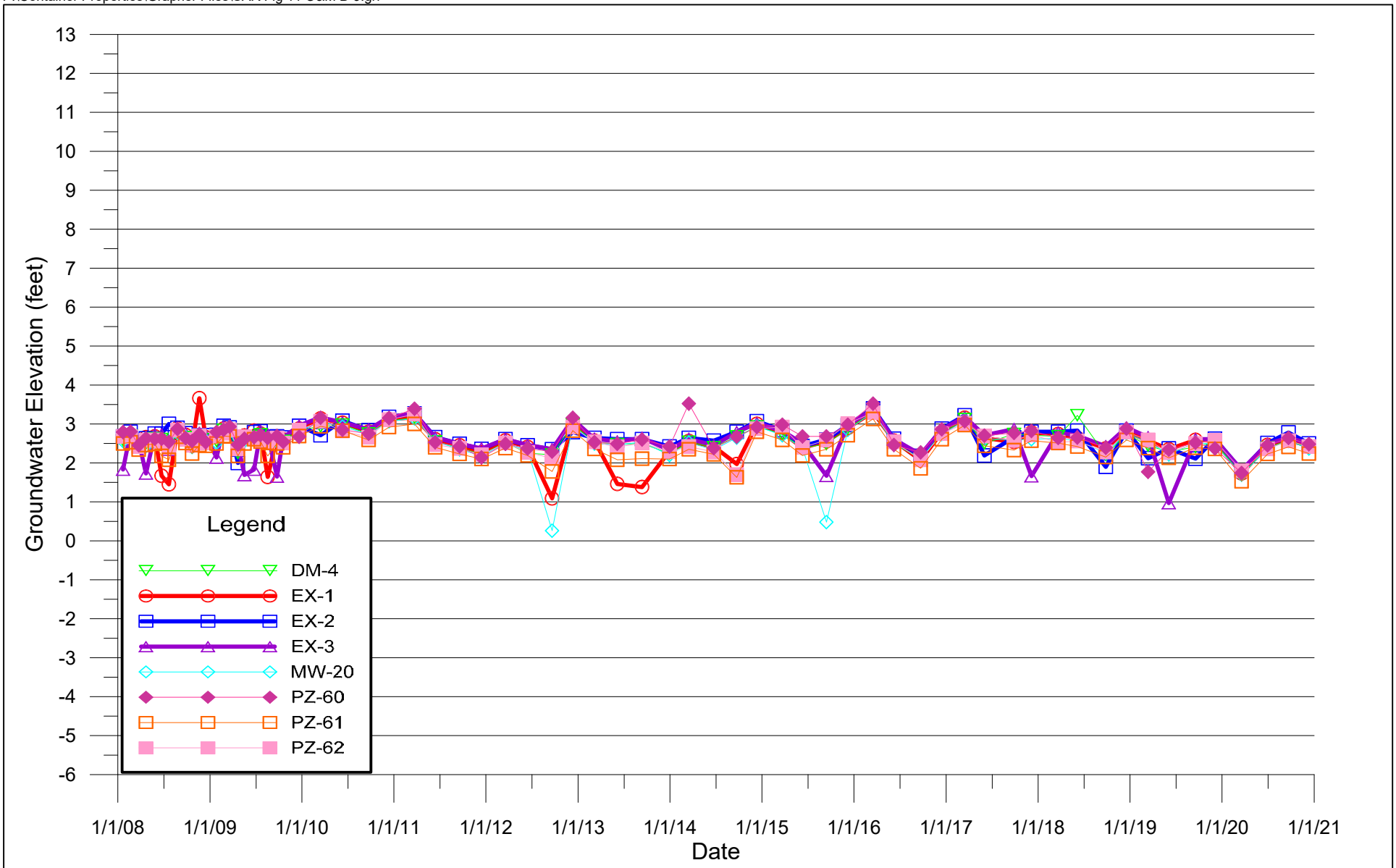
DOF

GROUNDWATER ELEVATIONS:
MW-17, MW-27, MW-28, MW-29, AND PZ-63
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-8

P:\Container Properties\Grapher Files\SAR Fig 11 O&M B-9.grf



Notes:
1. North American Vertical Datum of 1988.
2. Dashed line indicates well located outside of barrier wall.
3. Hollow Points = Upper Aquifer Zone Well
4. Solid Points = Lower Aquifer Zone Well

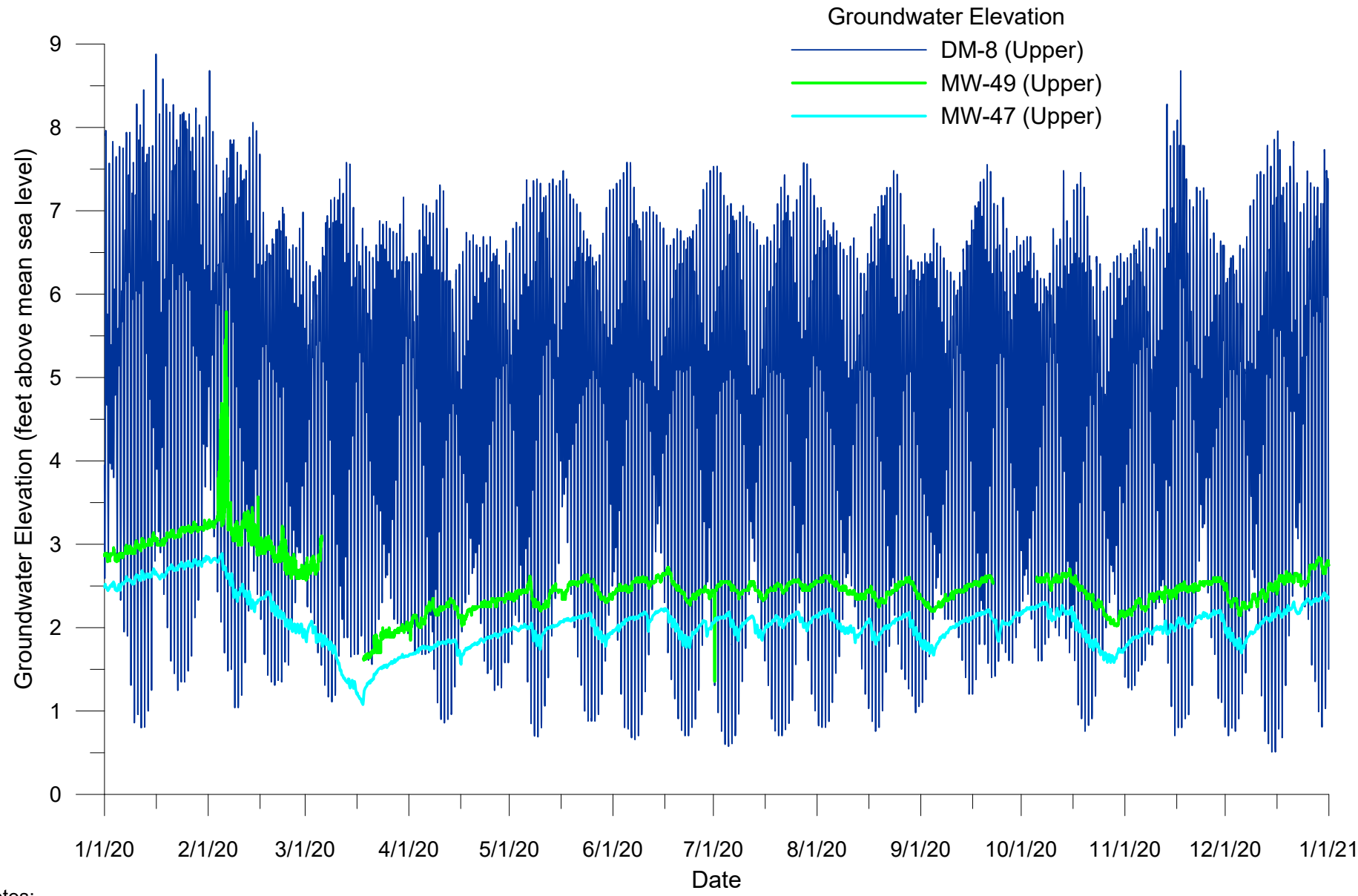
DOF

GROUNDWATER ELEVATIONS:
DM-4, EX-1, EX-2, EX-3, MW-20, PZ-60, PZ-61, AND PZ-62
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
B-9

P:\Container Properties\Grapher Files\Quarterly Reporting\DOF Figure 1_2_3 WLs.grf



Notes:

1. MW-49 data were erroneous from March 5 to March 18 and September 22 to October 5.

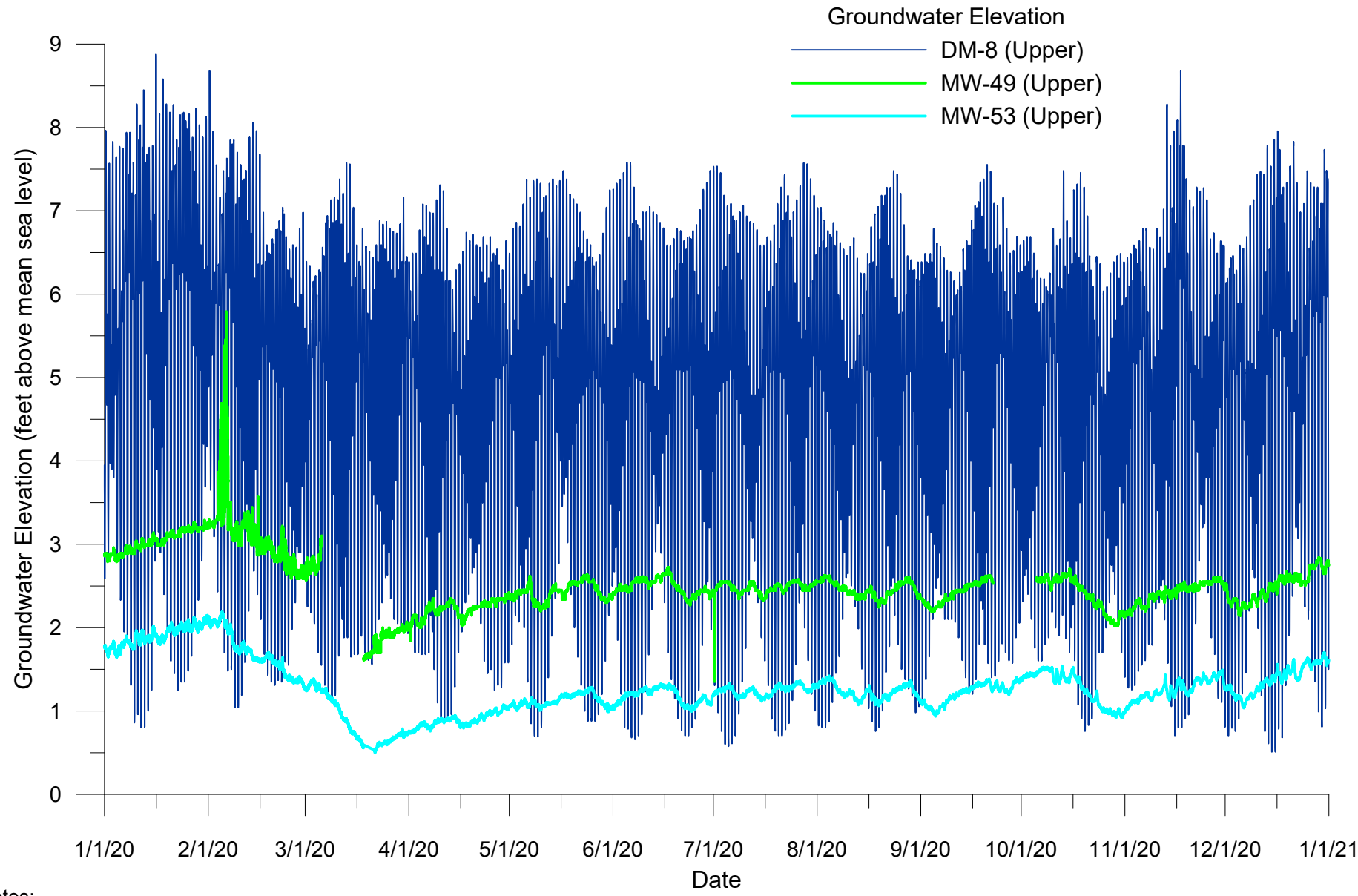
Former Rhone-Poulenc Site
Tukwila, Washington

2020 GROUNDWATER ELEVATIONS:
DM-8, MW-49, AND MW-47

DOF DALTON OLMSTED FUGLEVAND

Figure No.	Project No.
B-10	CON-001

P:\Container Properties\Grapher Files\Quarterly Reporting\DOF Figure 1_2_3 WLs.grf



Notes:

1. MW-49 data were erroneous from March 5 to March 18 and September 22 to October 5. Transducer in MW-53 was removed March 18 and restored March 21.

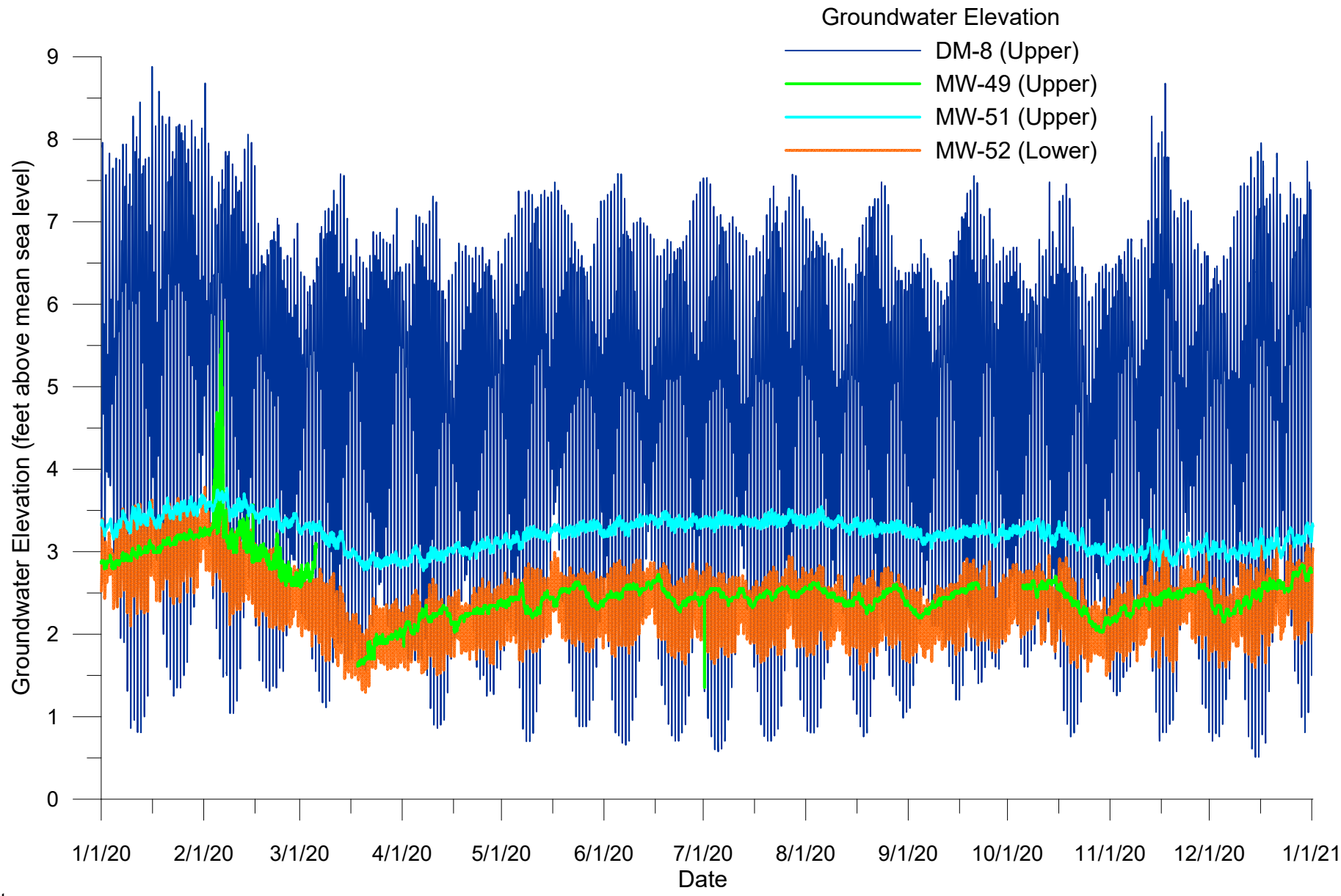
Former Rhone-Poulenc Site
Tukwila, Washington

2020 GROUNDWATER ELEVATIONS:
DM-8, MW-49, AND MW-53

DOF DALTON OLMSTED FUGLEVAND

Figure No.	Project No.
B-11	CON-001

P:\Container Properties\Grapher Files\Quarterly Reporting\DOF Figure 1_2_3 WLs.grf



Notes:

1. MW-49 data were erroneous from March 5 to March 18 and September 22 to October 5.

Former Rhone-Poulenc Site
Tukwila, Washington

2020 GROUNDWATER ELEVATIONS:
DM-8, MW-49, MW-51, AND MW-52

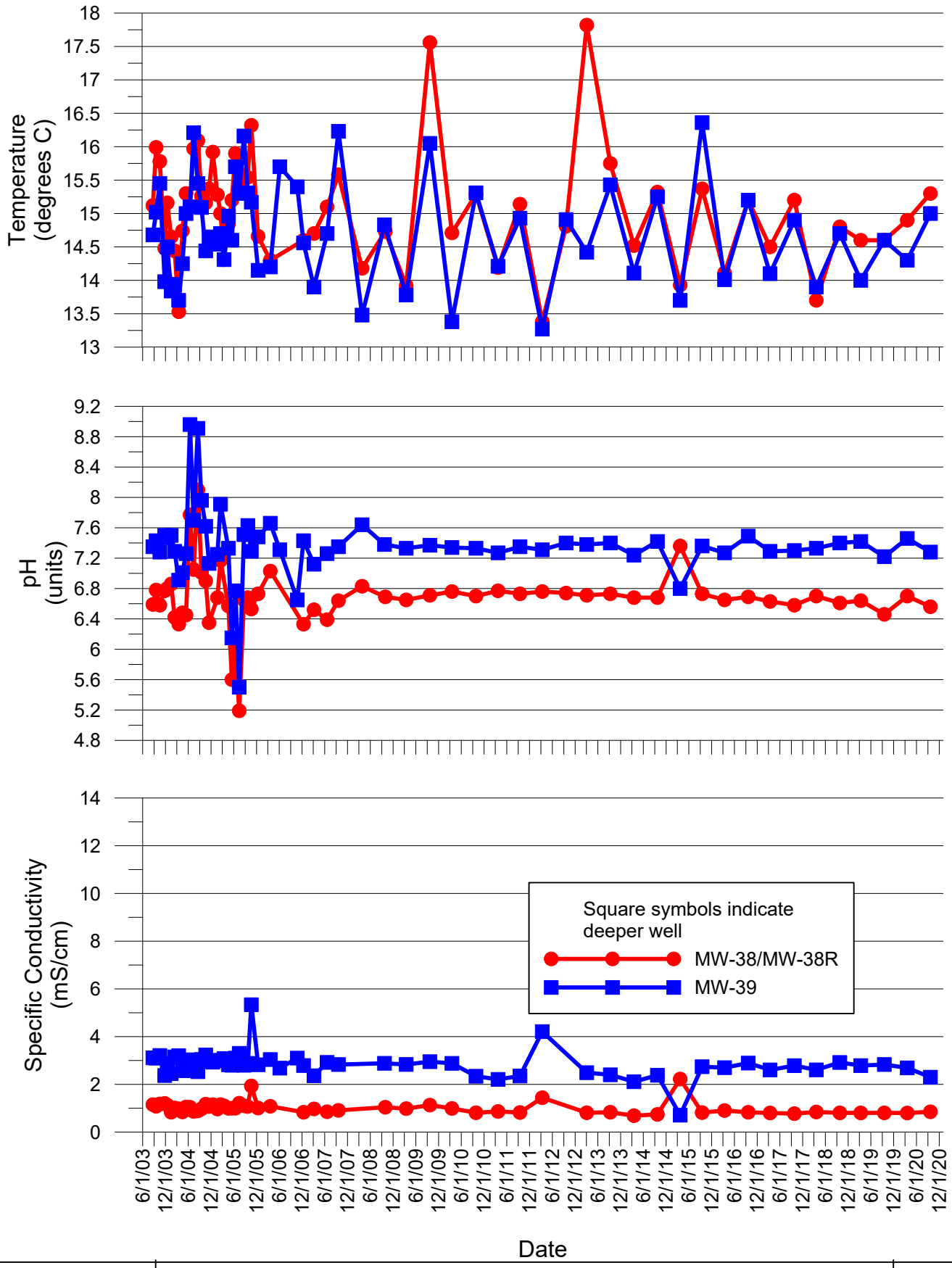
DOF DALTON OLMSTED FUGLEVAND

Figure No.	Project No.
B-12	CON-001

Appendix - C

General Parameter Trend Charts

NOTE: Specific Conductivity readings for the September 2012 event are not plotted due to improper calibration.



DALTON OLMSTED FUGLEVAND

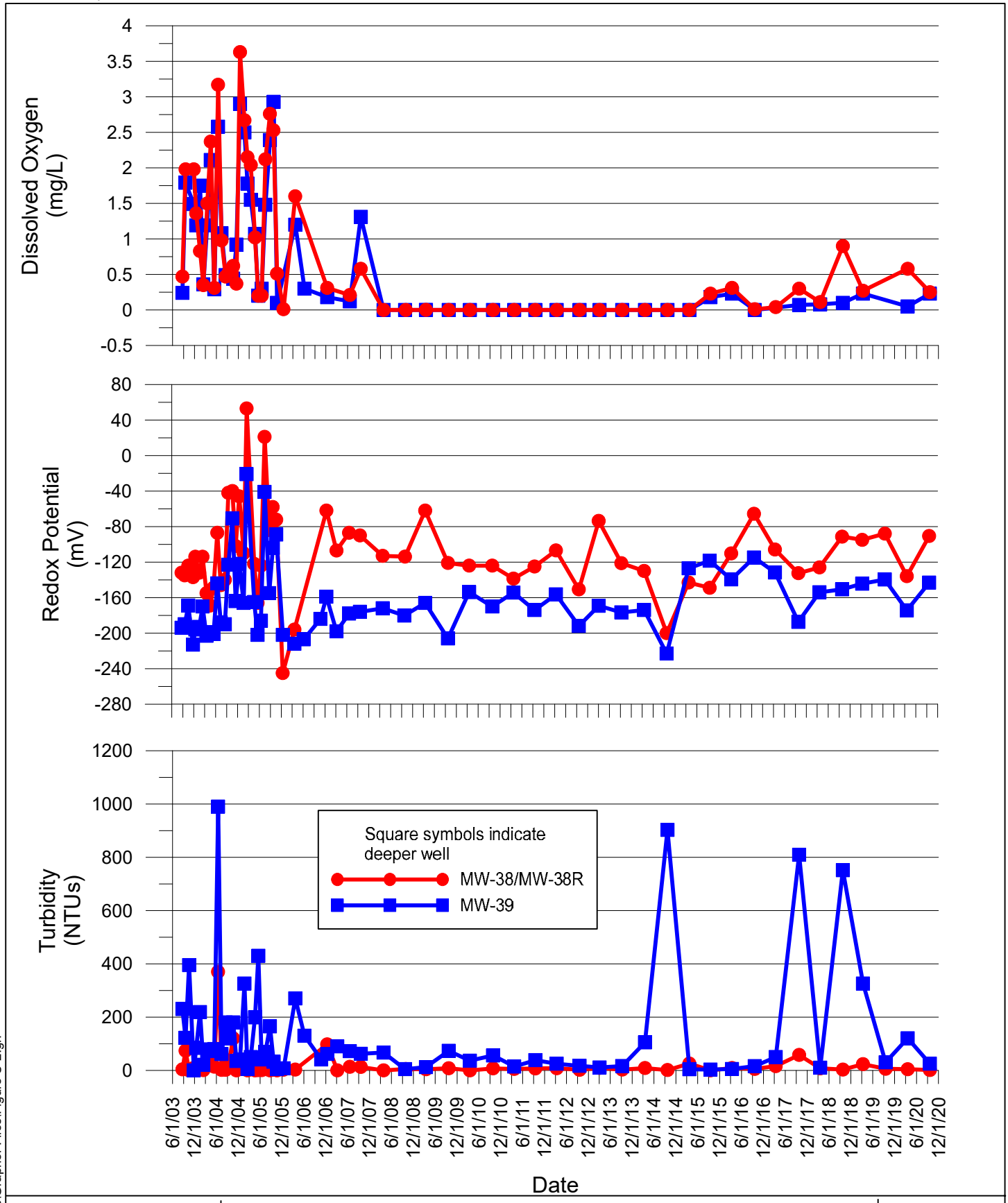
GENERAL PARAMETERS: MW-38/MW-38R AND MW-39
Former Rhone-Poulenc Site,
Tukwila, Washington

Project No.
CON-001

Figure No.
C-1

P:\Container Properties\Grapher Files\Figure C-1.grf

NOTE: Dissolved oxygen readings for the September 2019 event are not plotted due to an instrument error.



P:\Container Properties\Grapher Files\Figure C-2.grf

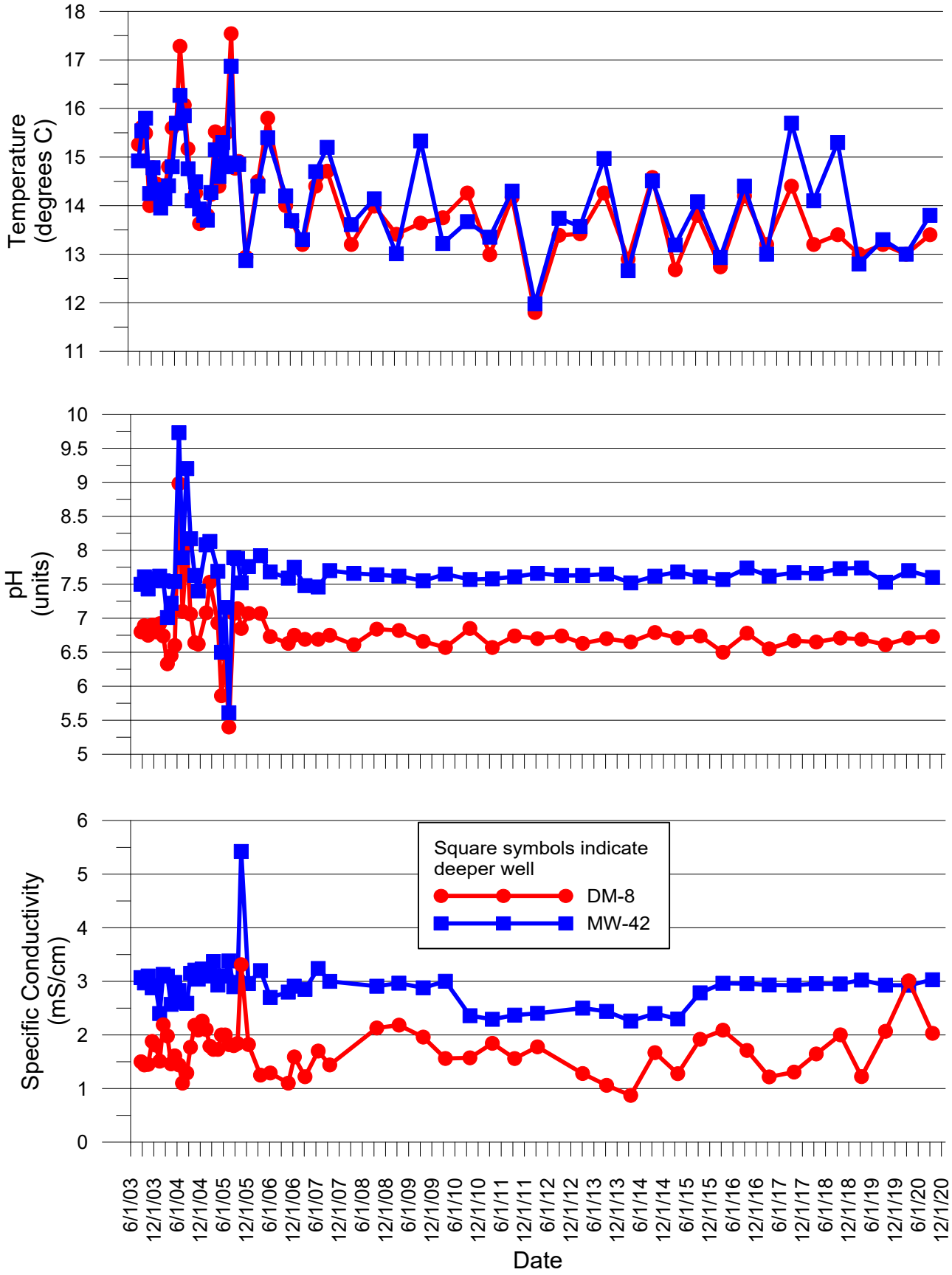
DALTON OLMSTED FUGLEVAND

GENERAL PARAMETERS: MW-38/MW-38R AND MW-39
Former Rhone-Poulenc Site,
Tukwila, Washington

Project No.
CON-001

Figure No.
C-2

NOTE: Specific Conductivity readings for the September 2012 event are not plotted due to improper calibration.



DALTON OLMSTED FUGLEVAND

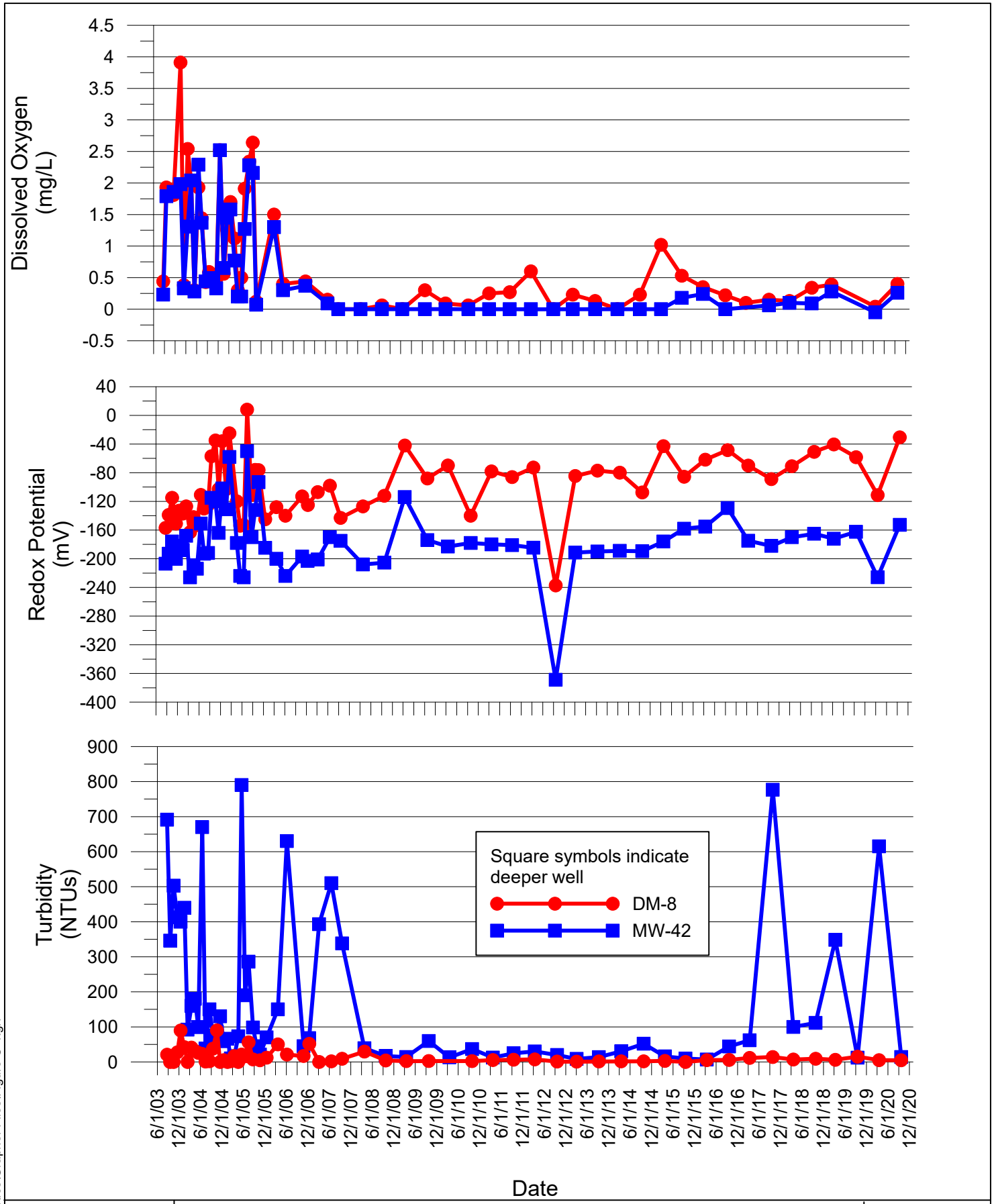
GENERAL PARAMETERS: DM-8 AND MW-42
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-3

P:\Container Properties\Grapher Files\Figure C-3.grf

NOTE: Dissolved oxygen readings for the September 2019 event are not plotted due to an instrument error.



DALTON OLMSTED FUGLEVAND

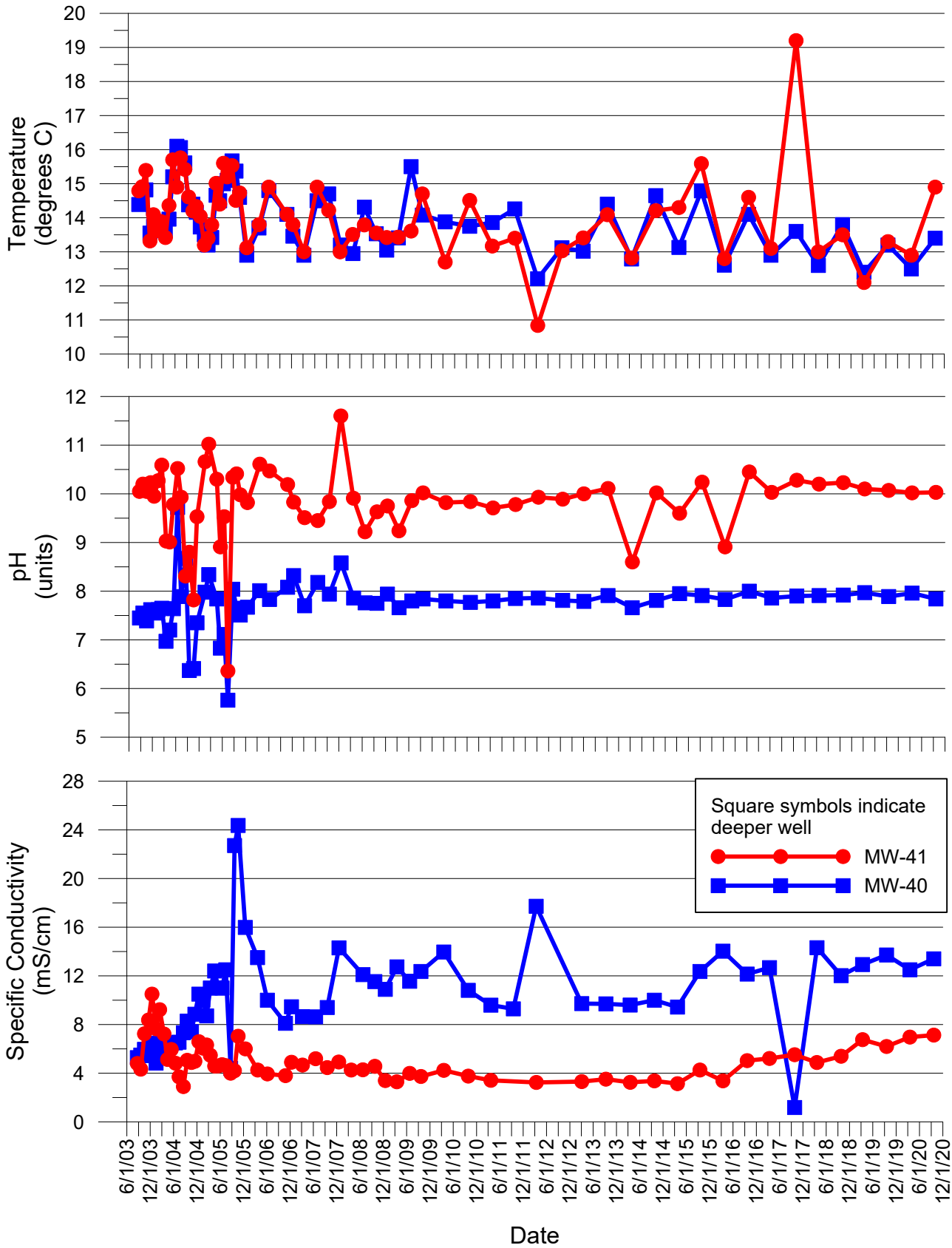
GENERAL PARAMETERS: DM-8 AND MW-42
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-4

P:\Container Properties\Grapher Files\Figure C-4.grf

NOTE: Specific Conductivity readings for the September 2012 event are not plotted due to improper calibration.



DALTON OLMSTED FUGLEVAND

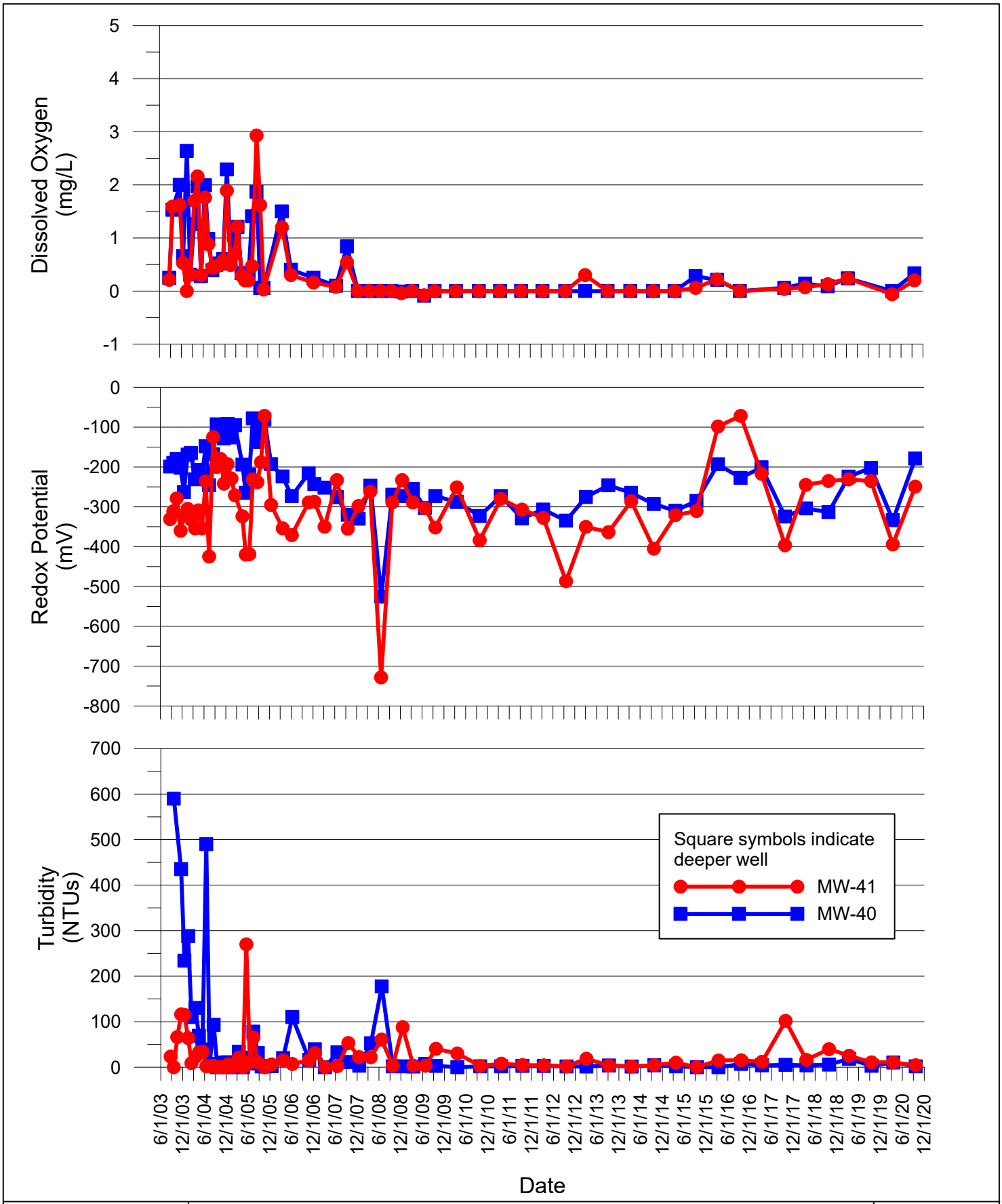
GENERAL PARAMETERS: MW-40 AND MW-41
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-5

P:\Container Properties\Grapher Files\Figure C-5.grf

NOTE: Dissolved oxygen readings for the September 2019 event are not plotted due to an instrument error.



DALTON OLMSTED FUGLEVAND

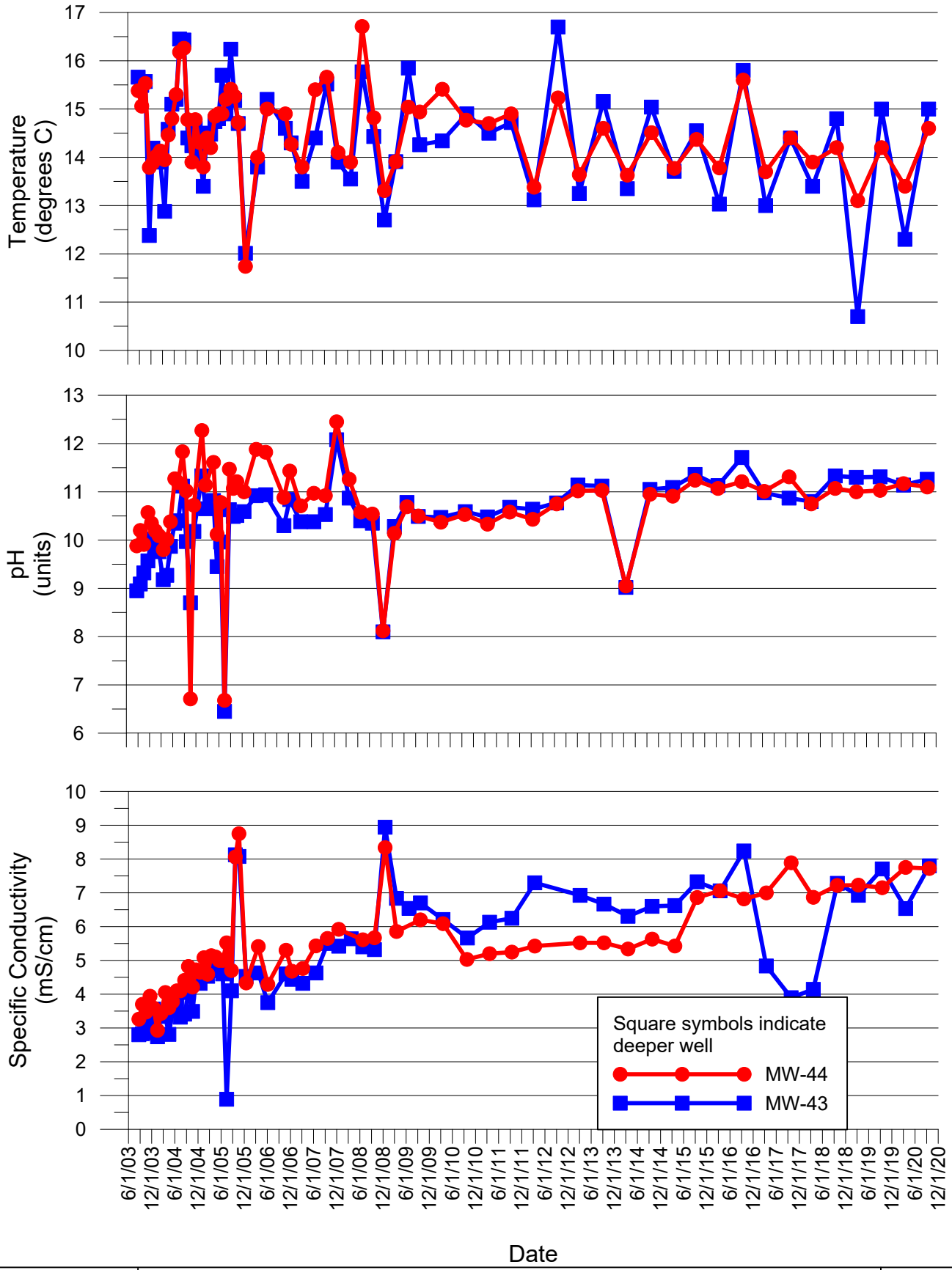
GENERAL PARAMETERS: MW-40 AND MW-41
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-6

P:\Container Properties\Grapher Files\Figure C-6.grf

NOTE: Specific Conductivity readings for the September 2012 event are not plotted due to improper calibration.



DOF DALTON OLMSTED FUGLEVAND

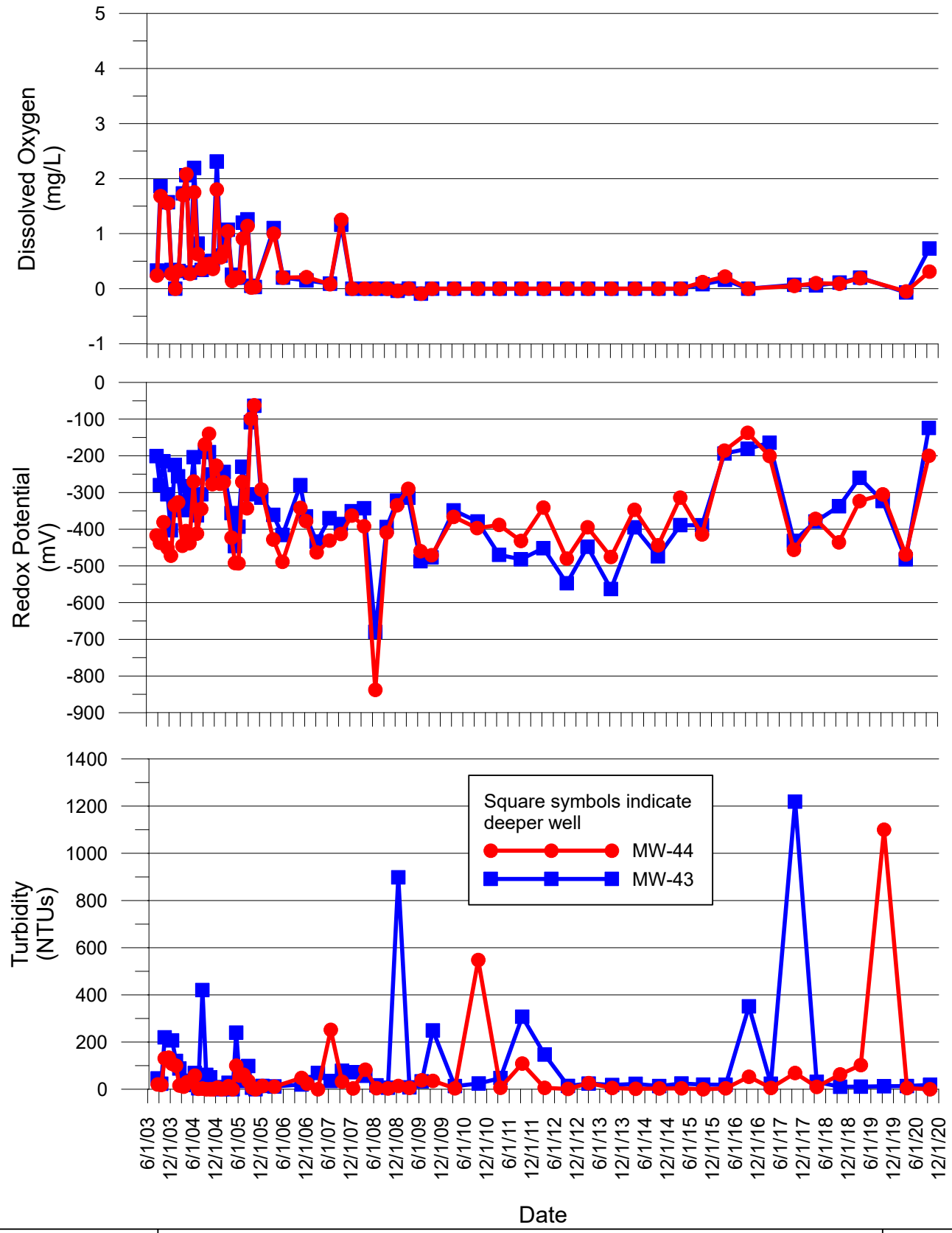
GENERAL PARAMETERS: MW-43 AND MW-44
Former Rhone-Poulenc Site
Tukwila, Washington

Project No. CON-001

Figure No. C-7

P:\Container Properties\Grapher Files\Figure C-7.grf

NOTE: Dissolved oxygen readings for the September 2019 event are not plotted due to an instrument error.



DALTON OLMSTED FUGLEVAND

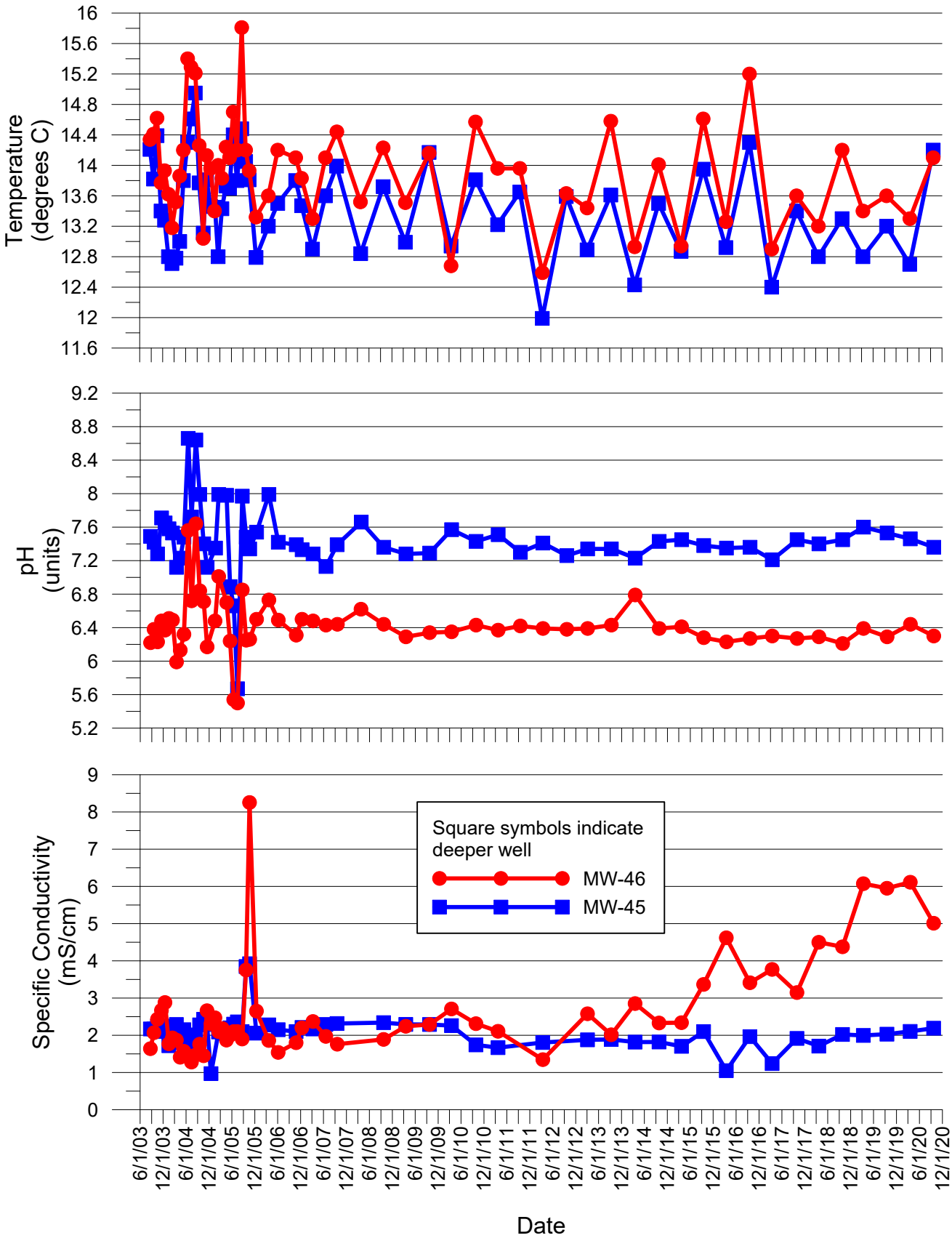
GENERAL PARAMETERS: MW-43 AND MW-44
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-8

P:\Container Properties\Grapher Files\Figure C-8.grf

NOTE: Specific Conductivity readings for the September 2012 event are not plotted due to improper calibration.



DALTON OLMSTED FUGLEVAND

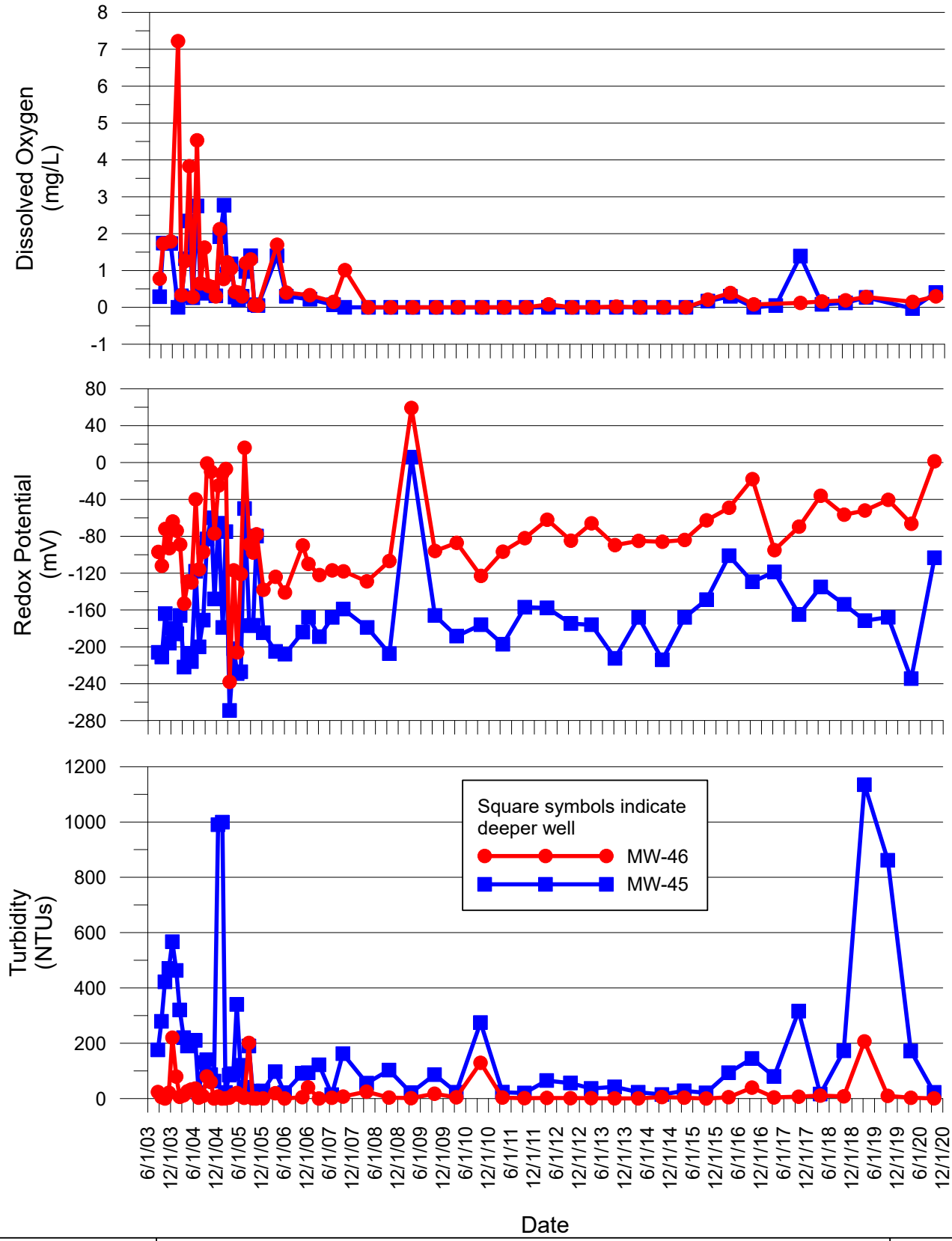
GENERAL PARAMETERS: MW-45 AND MW-46
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-9

P:\Container Properties\Grapher Files\Figure C-9.grf

NOTE: Dissolved oxygen readings for the September 2019 event are not plotted due to an instrument error.



DALTON OLMSTED FUGLEVAND

GENERAL PARAMETERS: MW-45 AND MW-46
Former Rhone-Poulenc Site
Tukwila, Washington

Project No.
CON-001

Figure No.
C-10

P:\Container Properties\Grapher Files\Figure C-10.grf

Appendix - D

Operation and Maintenance Logs

Quarterly Fence and Barrier Wall Inspection

Fence Observations:

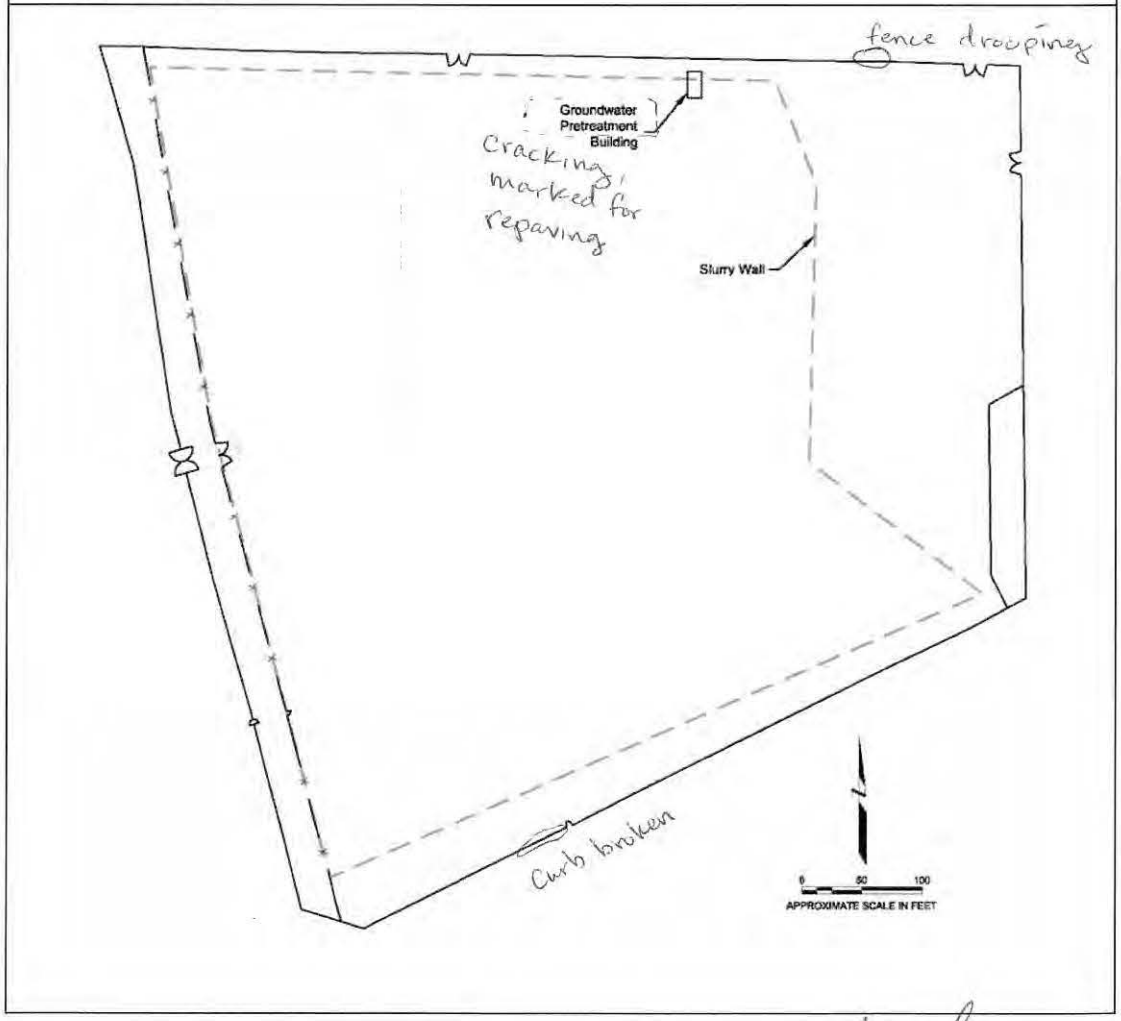
- Fence damage that would allow unauthorized access
- Plant growth that prevents inspecting fence integrity and signage
- Signs are present and readable
- Other defects that are a threat to site security

Barrier Wall Observations

- Ruts, cracking, ponding, erosion, and settlement over the barrier wall alignment
- Areas of potential surface water infiltration over the barrier wall
- Other damage to the barrier wall

Attach photos documenting areas if anything is damaged or should be watched in the future. **Note any required maintenance on the Maintenance Resolution Form and contact PM**

Western Parcel



Field Representative (**Print, Sign, Date**): Trevor Louviere 6/30/2020

Quarterly Fence and Barrier Wall Inspection

Fence Observations:

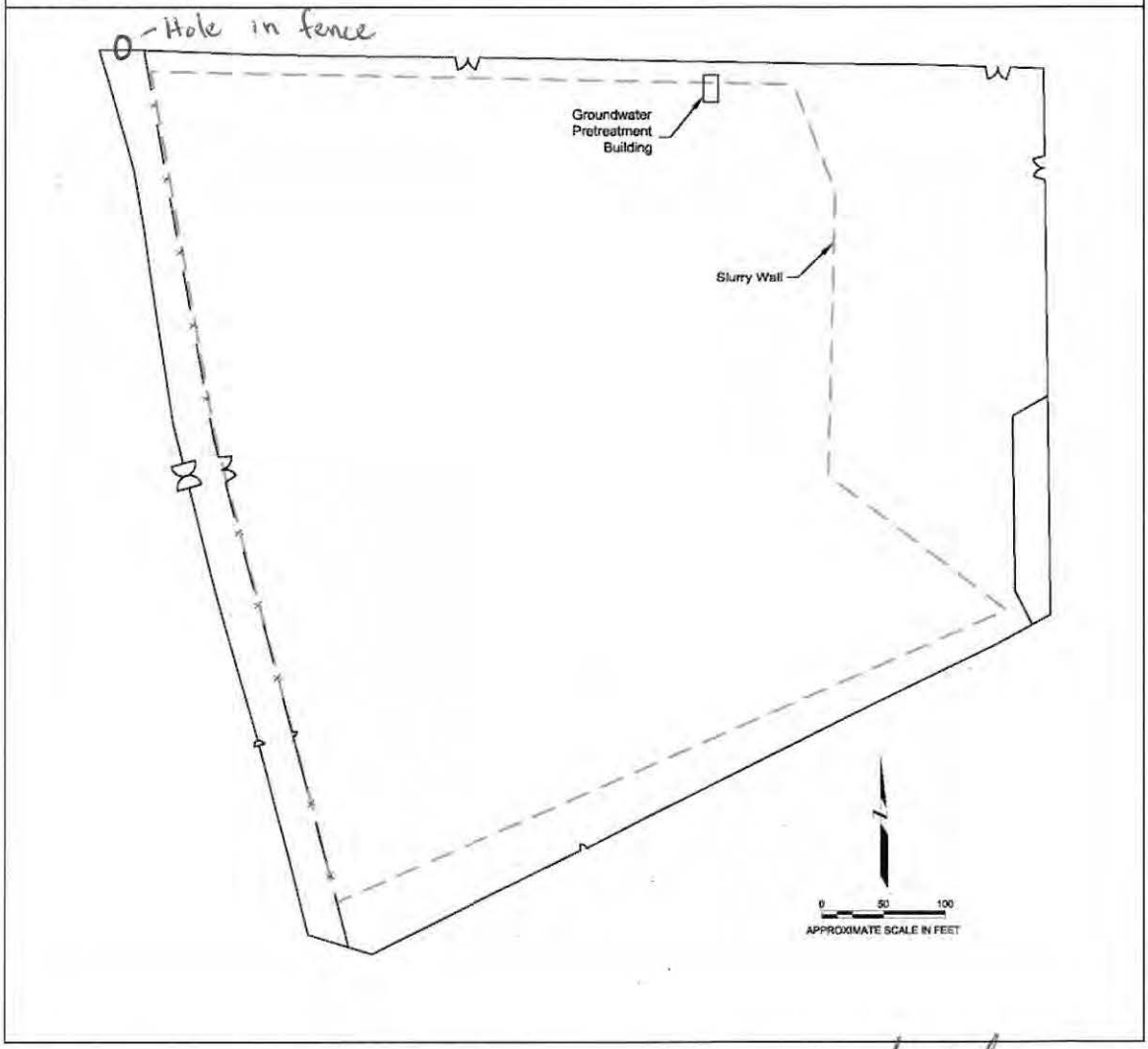
- Fence damage that would allow unauthorized access
- Plant growth that prevents inspecting fence integrity and signage
- Signs are present and readable
- Other defects that are a threat to site security

Barrier Wall Observations

- Ruts, cracking, ponding, erosion, and settlement over the barrier wall alignment
- Areas of potential surface water infiltration over the barrier wall
- Other damage to the barrier wall

Attach photos documenting areas if anything is damaged or should be watched in the future. **Note any required maintenance on the Maintenance Resolution Form and contact PM**

Western Parcel



Field Representative (**Print, Sign, Date**): Trevor Louviere 9/22/20

Quarterly Fence and Barrier Wall Inspection

Fence Observations:

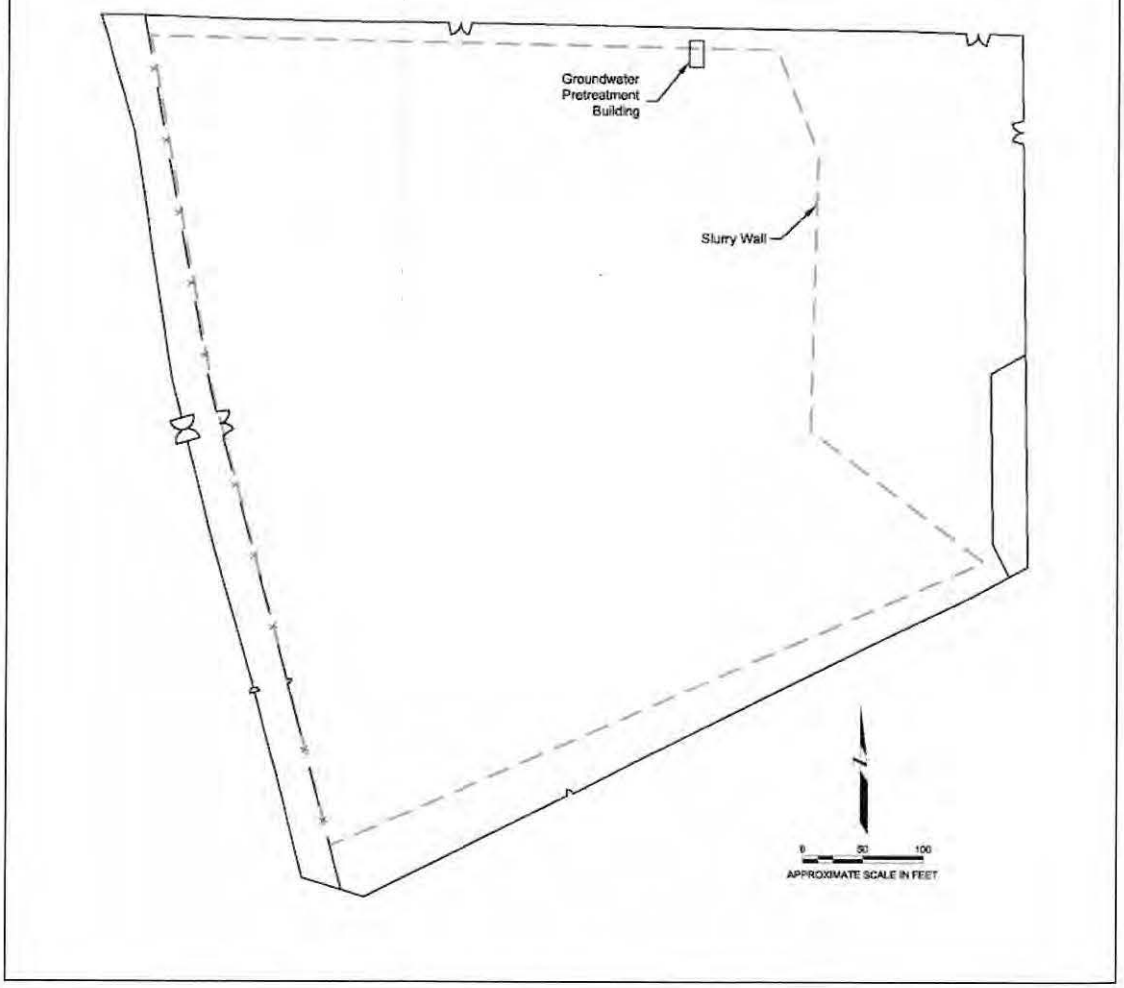
- Fence damage that would allow unauthorized access
- Plant growth that prevents inspecting fence integrity and signage
- Signs are present and readable
- Other defects that are a threat to site security

Barrier Wall Observations

- Ruts, cracking, ponding, erosion, and settlement over the barrier wall alignment
- Areas of potential surface water infiltration over the barrier wall
- Other damage to the barrier wall

Attach photos documenting areas if anything is damaged or should be watched in the future. **Note any required maintenance on the Maintenance Resolution Form and contact PM**

Western Parcel



Field Representative (**Print, Sign, Date**): EZRA BEAVER 12/11/20

Quarterly Transducer Check/Calibration Form

Note: directions for this operating procedure are outlined in Transducer Operations of Appendix C.

Before measuring anything, record the following from the data recorder:

DM-8 Scale: Bottom -147.675 Top 64.091 MW-49 Scale: Bottom -144.956 Top 59.597

Control Well DM-8

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8	6/30/20	1129	3.699	3.699			
DM-8	6/30/20	1131			16.63	20.40	3.77
DM-8							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.071

Calibration needed (difference > 0.2 feet)? __ Yes ✓ No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Does range add up to 68.81 feet? __ Yes __ No

If no, correct problem so that the difference is 68.81 ft.

Enter revised bottom and top of scale into the data recorder for DM-8.

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8							
DM-8						20.40	
DM-8							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Control Well MW-49

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49	6/30/20	1125	2.417	2.425			
MW-49	6/30/20	1125			16.10	18.49	2.39
MW-49	6/30/20	1126	2.417	2.425			

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.035

Calibration needed (difference > 0.2 feet)? __ Yes ✓ No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

- When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Docs range add up to 69.25? __ Yes __ No

If no, correct problem so that the difference is 69.25

Enter revised bottom and top of scale into the data recorder for MW-49

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49							
MW-49						18.49	
MW-49							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

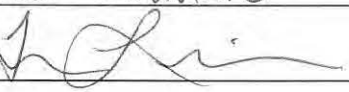
Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Comments: Both transducers are within calibration requirements. No calibration necessary.

Field Representative 1(Print): Trevor Louviere

(Sign): 

Field Representative 2 (Print): EZRA BEAVER

(Sign): 

Quarterly Transducer Check/Calibration Form

Note: directions for this operating procedure are outlined in Transducer Operations of Appendix C.

Before measuring anything, record the following from the data recorder:

DM-8 Scale: Bottom -4.882 Top 63.928 MW-49 Scale: Bottom -1.791 Top 67.457

Control Well DM-8

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8	9/21/20	~~17:55~~ 17:15	4.954	4.926			
DM-8	9/21/20	17:17			15.45	20.40	4.95
DM-8	9/21/20	17:19	5.153	5.141			

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.02

Calibration needed (difference > 0.2 feet)? __ Yes X No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Does range add up to 68.81 feet? __ Yes __ No

If no, correct problem so that the difference is 68.81 ft.

Enter revised bottom and top of scale into the data recorder for DM-8.

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8							
DM-8						20.40	
DM-8							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Control Well MW-49

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49	9/21/20	17:22	2.617	2.609			
MW-49	9/21/20	17:23			15.92	18.49	2.57
MW-49	9/21/20	17:29	2.617	2.609			

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.04

Calibration needed (difference > 0.2 feet)? __ Yes K No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

- When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Does range add up to 69.25? __ Yes __ No

If no, correct problem so that the difference is 69.25

Enter revised bottom and top of scale into the data recorder for MW-49

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49							
MW-49						18.49	
MW-49							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Comments: _____

Field Representative 1(Print): Trevor Lowiere

(Sign): _____

Field Representative 2 (Print): EZRA BEAVER

(Sign): _____

Quarterly Transducer Check/Calibration Form

Note: directions for this operating procedure are outlined in Transducer Operations of Appendix C.

Before measuring anything, record the following from the data recorder:

DM-8 Scale: Bottom 4.051 Top 7.363 MW-49 Scale: Bottom 2.323 Top 2.403

Control Well DM-8

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8	12/11/20	13:18	7.385	7.371			
DM-8	12/11/20	14:18			13.04	20.40	7.36
DM-8	12/11/20	14:19	7.363	7.359			

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.001

Calibration needed (difference > 0.2 feet)? __ Yes X No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Does range add up to 68.81 feet? __ Yes __ No

If no, correct problem so that the difference is 68.81 ft.

Enter revised bottom and top of scale into the data recorder for DM-8.

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
DM-8							
DM-8						20.40	
DM-8							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (20.40 ft) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Control Well MW-49

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49	12/11/20	14:22	2.357	2.369			
MW-49	12/11/20	14:23			16.10	18.49	2.39
MW-49	12/11/20	14:23	2.397	2.401			

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = 0.011

Calibration needed (difference > 0.2 feet)? __ Yes X No

If no, recalibration is not needed. If yes, proceed with recalibration as follows:

Recalibration:

When data recorder elevation reading is higher than manual water elevation reading, subtract calculated difference from scale bottom and top.

- When data recorder elevation reading is lower than manual water elevation reading, add calculated difference to scale bottom and top.

Revised Bottom of Scale: _____ Revised Top of Scale: _____ Time entered: _____

Does range add up to 69.25? __ Yes __ No

If no, correct problem so that the difference is 69.25

Enter revised bottom and top of scale into the data recorder for MW-49

Calibration Recheck

Well	Date	Time	Transducer GW Elev. (ft, NGVD) PLC	Transducer GW Elev. (ft, NGVD) Data recorder	Manual Depth-to Water (ft)	TOC Elevation (ft NGVD)	Manual GW Elev. (ft NGVD)
MW-49							
MW-49						18.49	
MW-49							

Time to be recorded from data recorder.

Manual GW Elevation = TOC Elev. (18.49) - Depth to Water

Difference between Manual and Data Recorder Groundwater Elevation = _____

Calibration needed (difference > 0.2 feet)? __ Yes __ No

If no, recalibration is not needed. If yes, repeat recalibration as described above.

Comments: _____

Field Representative 1(Print): EZRA BEAVER

(Sign): _____

Field Representative 2 (Print): DAVE COOPER

(Sign): _____

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
March 18, 2020 – During a routine inspection of the pretreatment system, Wood noticed that all three extraction pumps were on. Review of downloaded water level data suggested that a malfunction occurred in the transducer deployed in MW-49. A manual reading of the water level in MW-49 showed that the transducer reading was approximately one foot greater than the actual water level, which caused all three extraction pumps to turn on. This resulted in approximately seven days of effluent flow discharge exceedances during the month of March. Review of transducer data from self-logging transducers at the site suggested that the 72-hour average water level differential remained greater than 1 foot during this period, and that the data recorded by the MW-49 transducer during the period from 3/6/2020 to 3/18/2020 is erroneous.
Resolution (Attach Supporting Information as Needed)
March 18, 2020 – All three extraction pumps were turned off. A replacement transducer form MW-49 was ordered. **March 21, 2020** – The replacement transducer was installed and calibrated. **March 23, 2020** – The calibration in MW-49 was checked and found to be off by 0.19 feet. The transducer was recalibrated, and the extraction pumps were turned back on. **March 26, 2020** – The calibration in MW-49 was checked and found to be accurate. **April 1, 2020** – The calibration in MW-49 was checked and found to be accurate. During maintenance on DM-8, the MW-49 transducer cable was damaged. The wire was re-spliced, and the transducer was recalibrated.

Responsible Party (Print and Sign):_____

Date:_____

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
March 18, 2020 – During a routine inspection of the pretreatment system, Wood identified that the transducer in MW-49 was malfunctioning, which caused the extraction pumps to turn on generating a flow exceedance. The delta and the flow exceedances both should have resulted in an autodialer alarm, however no calls were received.
Resolution (Attach Supporting Information as Needed)
March 26, 2020 – Wood tested the autodialer by intentionally triggering an alarm. While the autodialer identified the alarm, no calls were received. The "phone" light on the autodialer was wrong, which means the autodialer is not connected to the phone line. **March 31, 2020** – Wood called century link, who confirmed that a line had been broken or damaged. **July 1, 2020** – DOF coordinated repair of the phone line and the autodialer was confirmed to call out.

Responsible Party (Print and Sign):_____

Date:_____

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
Fence at entrance of property is open and cannot be secured. New tenant (King County) removed fence panels to open for shuttle bus traffic (every 5 minutes, 24 hours per day).
Is Issue Time Critical or Critical to System performance (circle one): Yes (No)
System Engineer Expected Completion Date: August 1, 2020
Resolution (Attach Supporting Information as Needed)
7/20/20 - King County will have King County Sheriff, currently performing patrols for other properties, stop by and periodically check on the site. DPI will install gate to secure fence.

Responsible Party (Print and Sign): Trevor Louviere

Date: 7/20/20

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
Well A2 monument damaged, monument will need to be replaced. Monument upper ring and lid missing. Spare well lid placed over well until repairs can be made.
Is Issue Time Critical or Critical to System performance (circle one): Yes (No)
System Engineer Expected Completion Date: August 15, 2020
Resolution (Attach Supporting Information as Needed)
Monument replaced in 7/30/20 by Cascade Drilling, LP.

Responsible Party (Print and Sign): Trevor Louviere

Date: 7/30/2021

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
Desiccant in junction box adjacent to DM-8 is pink (spent) need to replace. observed during 9/22/20 inspection
Is Issue Time Critical or Critical to System performance (circle one): (Yes) **No**
System Engineer Expected Completion Date: 9/22/20
Resolution (Attach Supporting Information as Needed)
Replaced desiccant w/ new.

Responsible Party (Print and Sign): Trevor Louviere

Date: 9/22/20

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
PLC DATA DID NOT DOWNLOAD TO CARD
Is Issue Time Critical or Critical to System performance (circle one): Yes (No)
System Engineer Expected Completion Date: 11/3/2020
Resolution (Attach Supporting Information as Needed)
CARD WAS INADVIERTENTLY INSIERTIED BACKWARDS. UPDATIED SOP AND PROVIDIED DIRECTIONS ON PLC FOR CORRECT CARD ORIENTATION.

Responsible Party (Print and Sign): EZRA BEANIER

Date: 11/3/2020

Field Representative (Print and Sign): Trevor Louviere

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
High pressure @ ~~E~~ PI-1 = 27 psi observed 12/1
Resolution (Attach Supporting Information as Needed)
Replace filter bags. PI-1 = 5 psi

Responsible Party (Print and Sign): Trevor Louviere

Date: 12/1/20